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THE

EDINBURGH
MEDICAL AND SURGICAL
JOURNAL:

EXHIBITING

A CONCISE VIEW

OF THE

LATEST AND MOST IMPORTANT DISCOVERIES

IN

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PHARMACY.

1810.

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1810.

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THE

EDINBURGH

MEDICAL AND SURGICAL JOURNAL.

1. JANUARY 1810.

PART I.

ORIGINAL COMMUNICATIONS.

I.

Medical Report for Nottingham, from March 1808 *to March* 1809. By James Clarke, M. D. Physician to the General Hospital, and to the Vaccine Institution.

> " On doit porter le meme jugement sur l'homme malade : il est sujet à tous les symptomes qui tiennent du caractère particulier de sa maladie, et il est en outre modifié par la position des lieux, la nature du climat, les saisons, la manière de vivre, les affectiones morales dont il s'est formé une longue habitude. Ce n'est pas la faute de la médecine, mais celle du médecin, si on confond les propriétés fondamentales des objèts avec leurs modifications accidentelles."
>
> Pinel, Médecine Clinique, p. 269.

THIS observation of the celebrated Pinel cannot be refuted. Local situation, both in respect to climate and residence, food, employment, and general habits of life, all possess more or less influence in modifying the appearances of disease. In the statement of medical cases, too little attention is paid to these agents; in truth, they are generally slighted, and the minute descriptions which we receive from foreigners are too often treated with contempt, particularly the histories from the French school. It must be acknowledged, that they are sometimes verbose, and too frequently introduce extraneous matter; but, at the same time, they excel in an animated method of description, by which they draw the attention more closely to the case, and give it an additional interest.

The rules laid down by Dr Duncan sen. in his Medical Cases, under the "general heads to be followed in drawing up the histories of cases," are so good, that nothing can be added to improve them. They ought to be firmly impressed on the memory of every practitioner, who, by following that system, will, at the same time that he diminishes his own labour, easily form a clear and accurate history of the disease, which is an advantage of no little moment, both in consultation, and in presenting a case to the public. It requires some judgment to place the more material symptoms in a prominent point of view, whilst a lucid description is preserved of the collateral circumstances. The consulted physician cannot form any correct opinion of the patient, if the history, from which he is expected to draw his conclusions, be imperfect.

Before we proceed to describe the epidemic constitution for the last year, it is necessary to remark, that a disease is sometimes mentioned as very prevalent, when very few, if any cases are enumerated in the table, which, it must be remembered, presents only those who have applied for medical assistance to the Hospital, the Vaccine Institution, or to the reporter. Thus, in the month of December, measles are mentioned as prevalent. Although not one case is found in the table, the disease was, nevertheless, frequently seen in the town.

The Epidemic Constitution from April 1808 *to March* 1809.

April.—Snow fell on the 1st, 3d, 19th, and 21st. Rain on the 4th, 5th, 6th, 7th, 8th, 12th, 17th, 22d, 23d, 24th, 25th, 26th, and 27th. Several severe hail storms on the 17th, followed by sharp frost. The wind chiefly westerly.

The inflammatory constitution, so prevalent through the whole of the last month *, has not been moderated. *Pneumonia* has required the strictest antiphlogistic treatment; but most of the cases by this method were brought to a favourable termination.

The *Scarlatina* was very mild, without ulceration of the throat, and required very little medical attendance.

Variola.—The disease was brought from Sheepshead in Leicestershire, by the imprudence of a woman who went there to bury a an infant that had died of the disease, taking with her another child, who, thus exposed to the contagion, took the disease, and returned with it to this town, and infected his sister, from whom a neighbour took some matter on a needle, and inoculated her own child. The three cases terminated favourably, nor did the contagion spread any further, as the neighbourhood was immediately vaccinated, and every means taken to isolate the subjects of small-pox.

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* Medical and Surgical Journal, Vol. iv. p. 437.

Intermittents.—Of the six cases entered on the table, four were traced to the fenny counties; the remaining two occurred in children residing in the town, in whom the disease was supposed to arise from living in an unfinished house, whilst the plaster of the floors and walls continued damp, and constantly exhaling moisture. It is nearly in vain to admonish the labouring poor on this subject, for such is their avidity to enter a new situation, that they neglect all precaution. No attempt is made to dry the rooms by stoves, or any other artificial method. Sleeping chambers, in this state, must be extremely injurious to the constitution, the constant evaporation subtracting the natural heat from the body, which is, at the same time, exposed to the exhaling moisture. The only defence set up for this imprudence is, that "to get in yourself, is the only method of turning the workmen out." But it should be remembered, that the delay caused by dilatory workmen, is more than compensated by the safety it ensures.

May.—Rain fell on the 9th, 10th, 11th, 12th, 21st, 22d, 23d, 26th, 27th, and 31st; in the night of the 2d, 7th, 11th, 24th, and 26th. Thunder and lightning on the 5th, 7th, 11th, 30th, and 31st. The thermometer, on the 15th, stood at 82°. A sharp frost in the night of the 18th. The wind chiefly southerly.

Febrile diseases have been extremely prevalent; and, during the few days that the temperature continued so unusually high, some cases of synocha appeared, which required the most active antiphlogistic treatment.

Pneumonia was frequent. In one case, there was a translation of this disease to the head, which terminated fatally in four days. The subject of the disease was an intemperate plethoric young man. The prominent symptoms were excessive tremor of the tongue and of the limbs; hasty speech; vomiting of greenish fluid; picking and fumbling the bed-clothes; rubbing the eyes, which were somewhat red; muttering, speedily followed by violent delirium, without any expression of pain in the head; the pupil was not dilated or insensible to light, but did not shew the least morbid irritability; the pulse was at first full and hard; but, after one bleeding, to about sixteen ounces, became very feeble, and never again recovered its natural strength.

Cynanche Trachealis.—This was a very violent attack of the disease, brought to a favourable termination. The disease was treated by bleeding from the jugular vein, blisters to the throat, nauseating doses of the tartrit of antimony, and purgatives.

Catarrh and Phthisis.—The prevalence of these two diseases is supposed to have arisen from imprudent exposure to the cold evenings succeeding to the hot days during the whole of this month. The clothing that would be found oppressive in the day was not sufficient to protect the body from the chills of the evening, when the thermometer had fallen full ten degrees. The variation of temperature between the day and night is more destructive, from the condensation that is produced in the evenings, The evaporation that the heat causes from the surface of the earth, must, of course, be in proportion to the temperature; and the vapour produced when the temperature is 82°, will be condensed in the evening, when the thermometer has fallen 15°. The mean temperature for the month was as follows: Mean for the morning 57°.13—afternoon 65°.03—night 56°.67—general mean 59°.61. To guard against the injury arising from this variation of temperature, it is necessary to retain the winter clothing until the middle of June, or the beginning of July, and carefully to avoid exposure to the night air; particularly in the vicinity of rivers, to which the vapour or dew is more generally attracted.

June.—Rain fell on the 3d, 4th, 5th, 6th, 7th, 8th, 9th, 11th, 14th, 17th, and 23d; in the night of the 4th and 8th. Some thunder on the 11th. The wind chiefly easterly.

Synochus continues very prevalent.

Cynanche parotidea was attended with strong inflammatory fever, and great difficulty of swallowing, but terminated favourably under the usual plan of treatment.

Pneumonia required one good bleeding, followed by blisters and purgatives.

Cholera did not present any violent symptoms, and was speedily relieved by the usual means.

July.—Rain fell on the following days, the 3d, 16th, 20th, 21st, 26th, 28th, and 29th, in the night of the 4th, 8th, 19th, 24th, 27th, and 31st. On the 13th, at 3½ P. M. the thermometer in the east stood at 89°, in the west 91°, in the shade a degree of heat that has very seldom, if ever, been observed in this country. Thunder and lightning on the 15th, 16th, 21st, and on the 25th a thunder storm came on about 3 P. M.

and continued all the afternoon; the lightning was very vivid, with tremendous peals of thunder, and very heavy rain. On the 31st vivid lightning in the evening, with heavy rain, which continued part of the night; the quantity of rain for the last 12 hours measured .65 of an inch. The wind this month chiefly westerly. The great heat of this month very much affected those subject to determinations to the head; in consequence, apoplexy and cephalalgia were more frequent than usual. Many persons experience much pain in the head from remaining some time in a room with an electrifying machine in full work, particularly when it is repeatedly highly excited to charge a battery: these individuals are likely to experience the same inconvenience during storms, when the lightning is powerful; and this circumstance may in some measure account for the frequency of headach during this month.

Typhus appeared in a few detached instances.

Varicella was mild, but very prevalent.

Scarlatina appeared of a mild kind, and in detached cases.

Synocha, as might be expected from the great heat, was more prevalent than usual; to the same cause may be attributed the roseola and cholera.

August.—Rain fell on the following days, 1st, 6th, 7th, 8th, 9th, 13th, 14th, 16th, 24th, 26th, and 31st, and in the night of the 12th. Thunder storms on the 1st at 1 P. M., and on the 9th at 2 P. M. Wind chiefly westerly.

Cholera, as usual in the autumnal season, was the most prevalent disease; it was in general mild, and easily yielded to the common treatment. If an opiate is given in the commencement of the vomiting, it generally prolongs the disease, by quieting the natural efforts of the stomach before all the bilious fluid is expelled; in consequence, the patient will experience repeated returns of nausea and vomiting, or severe gripings, with tenesmus. Instead of stopping the vomiting, nature is to be assisted in her salutary efforts, by giving the patient warm chamomile tea, or thin gruel, unil it is rejected clear; then an opiate will have an excellent effect. Should the vomiting be violent, and attended with much pain, a few drops of the aqua ammoniæ, in each cup of the gruel, has been found very beneficial. As soon as the stomach is clear, an opiate should be given, combined with a cordial, either in the form of a pill, with oil of cinnamon, or in an effervescent draught; and no state of the bowels should prevent the exhibition of a full dose of calomel and rhubarb the next morning.

Typhus is still seen, and in a mild form, but in detached cases;

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mucus; he sighed at times during the night, but slept well, and lay in bed until near 12 o'clock the next day. He eat a small quantity of bread in bed. When up he was washed, but it produced much sighing, and difficulty of breathing [*]. With much persuasion he was prevailed upon to take a small quantity of broth; this effort produced sighing and difficulty of breathing, which was again brought on in the afternoon by taking a little tea; at this time he eat a small quantity of bread. During Monday night nothing particular was observed, except that he once started and appeared agitated from the coughing of his sister, who slept with him.

On my first visit, on Tuesday morning, (November 22.) I ordered him to be taken into a more private room; in doing this, he was exposed to a slight stream of air, which produced a considerable degree of agitation, sighing, and difficulty of breathing—if any person breathed towards him, he desired them not to blow upon him—he complained of pain in the forehead, and soreness of the throat, which he referred to the *pomum adami;* a peculiar kind of efflorescence, in irregular patches, the size of a sixpence, frequently overspread the face for a short time, and this was succeeded by paleness and cold sweats; pulse 92, small, irregular, and fluttering—he had a peculiar tremulous mode of speaking, but perfectly sensible, and particularly anxious, by violent straining, to get something up from his throat, which he conceived to be the cause of his disease; the eyes were more prominent than natural, with a peculiar fierceness. Whilst I remained with him, the difficulty of breathing and retching occurred frequently, bringing up a small quantity of tough frothy mucus, which could only be removed from his mouth by a cloth. I ordered some water to wash the face, for the purpose only of observing the effect. He was agitated at the mention of water, which increased when it was brought, and expressed the greatest horror when the attempt was made to wash him. I wet a cloth; on bringing it towards the face he was much agitated, but when once it was applied, he could bear it to be rubbed about without any unusual emotion being produced. He wished to take a little water; he could not drink out of a tea-cup, but took a little himself with a tea-spoon, and threw it into the mouth with a convulsive action; it produced the sighing and difficulty of breathing. I requested to see the tongue; this he put out in a convulsive manner; it did not exhibit any particular appearance. Convinced that he could not swallow any liquid

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[*] I suspect that this involuntary sighing, and the difficulty of breathing, resembles the dyspnœa a balneo frigido of Darwin.—Reporter.

quid medicine, I tried him with a pill made of bread; this
swallowed with some difficulty; I therefore ordered some
composed of camphor, opium, and cicuta, and half an ounce
the ung. hydrar. fort. to be rubbed on the breast, throat,
arms.

On visiting him again in the evening, I found all the sy
toms much increased; he had taken a few of the pills with
any effect; he was now unable to swallow any thing, but
mained perfectly sensible, and expired about twelve o'clock
night, of the third day of the disease.

He was bitten by the dog on the 18th day of September
ceding, in the left cheek and temple; the wound in the ch
bled a small quantity, but was very slight, and healed with
any application. He never made any complaint of the bi
parts, nor could I perceive any particular appearance; in f
the wound was so slight that the exact situation could no
discovered.

There was another child, and a man, bit by the same do
Attenburrow on the same day; and I am informed a man
longing to the Nottingham hounds a day or two after *.—I a

Dear Sir, your most obedient servan
N. M.

Thrumpton, March 14. 1809.

To Dr JAMES CLARKE.

P. S. Dogs are said to have a dread of water when ra
but I observed in one case of a dog which died mad, tha
lapped water as long as, and longer than he was able to swal
it, without showing the least horror.

The symptoms of the disease in this case came on in si
three days, or nine weeks after the bite. It has been said,
the bitten part presents an inflammatory appearance when
hydrophobic symptoms come on. This was not observed in
case of Hill†; and in this case it could not exist in the sli
est degree, as the situation of the wound could not be fo
This boy, (Brown) it will be observed, could eat bread on
Monday, and swallow pills on the day of his death, without
very great inconvenience; but the greatest distress was prod
by the attempt to take fluids. Hill always found as much diffic
in swallowing solids as fluids; indeed, nothing could be g
him, but when pressure was made on the smaller lobes o

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* No other case of hydrophobia occurred from this source.

† Edinburgh Med. and Surg. Journal, Vol. v. p. 277.

ears, as mentioned in the note on this case. Too much stress cannot be made on this remarkable practical fact, which may be resorted to in hydrophobia with the greatest confidence; the firmnesss with which Hill swallowed fluids during this pressure was generally remarked. Mr Attenburrow said he had recourse to this experiment, from having repeatedly used it with the best effect in cynanche tonsillaris. The great morbid sensibility of the body to a stream of air, has been often noticed in hydrophobia; it was thought to arise from the coldness of the air; but Brown complained as much of the warm breath, and the agitation produced during Monday night, from the coughing of his sister, most probably arose from his feeling her breath expired upon him with unusual force. Although Hill latterly requested the window to be opened, from the fear he had of suffocation, yet he always disliked the opening of his chamber door, which allowed a stream of air to pass over his bed. Brown complained of a soreness of throat about the *pomum adami*, and made several voluntary efforts to vomit up something which he said stuck there. Hill called his a tightness, or a constriction of the throat, and pointed out the same place. The pulse in both cases was small and irregular. Both patients remained perfectly sensible; neither made any violent convulsive efforts of the body. Hill was sensible of his fate from the first moment of his attack, and looked forward with great resignation to the termination of his misery; he had read all the accounts of the disease he could procure, from the time he received the injury to the commencement of the disease. On the evening of his death, he sent for his wife and family, and took an affectionate leave of them; at the same time requested they would not come near him again, until he was dead, but to send him two strong men, he named two of his neighbours, to remain with him during the short time he had to live. From this there is no doubt but that Hill anticipated the violent convulsive efforts detailed in many of the published cases, and from his reading, he was fully aware of the usual symptoms of the disease. Brown, on the other hand, could not have acquired any information of this kind; his age precludes the supposition of reading on the subject, and his relatives were so little prepared, that they did not suspect the nature of the disease. No suspicion can then be thrown upon the relation he gave of his feelings—the relatives repeat many of his remarks, which tend to shew that he was perfectly sensible of his approaching dissolution. It is much to be lamented that the body was not examined.

That the disease of which this boy died was hydrophobia can hardly be disputed; but it is certainly very remarkable, that n

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rabid symptoms were observed in the dog, until the tenth day after he had bitten Brown. "This," as Mr Oldknow observes, in concluding his paper, "is a very curious and important circumstance, inasmuch as it tends to shew, that canine madness, in its incipient stages, is very difficult of detection; and that a dog, at this period of the disorder, is capable of communicating the infection, which, I believe, is not generally understood *." This must arise from our want of information on the disease. Some symptoms were doubtless present in this dog, which might escape the eye of a superficial observer; it fully confirms an observation in the last year's report: "Further progress must be made in the knowledge of this disease, as it affects the animal itself, before we can expect to profit by any preventive measure. It is vain to attempt to eradicate a disease which is known only by its dreadful effects †." In making an inquiry respecting this dog, a spaniel eighteen months old, it is stated, that, on the 18th of September, after biting a child, a man, and the boy Brown at Attenborough, he did not, in his return to Nottingham, shew any rabid symptoms; he swam across the canal, and hunted about as usual. He was afterwards tied up, and, on the 21st, was examined by the man belonging to the Nottingham hounds; it was at this time that this person was severely bit in the leg, and slightly in the lip, but he confidently affirmed the dog was not mad. The dog was taken into the field, and there fought for half an hour with another dog which he accidentally met, and afterwards swam in the water. On his return, he was again tied up. On the 28th, in the evening, he broke the rope that confined him, and escaped. Early in the morning of the 29th, the persons to whom he belonged were called up to destroy him, as he had been biting several dogs in the street, and was then lying at the street-door; he was in consequence destroyed immediately.

January 1809.—Rain fell on the 8th, 9th, 10th, 26th, and 27th; in the night of the 24th and 30th. Snow fell on the following days, 1st, 2d, 3d, 4th, 13th, 15th, 22d, and 24th; and in the night of the 2d, 3d, 4th, 5th, 19th, 22d, and 23d. The thermometer, on the night of the 22d, stood at 17°; within a mile of the town, it stood at 14°. The barometer varied very much. Between the 30th and 31st, the mercury rose no less than 1.13. The wind mostly easterly.

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* Edinburgh Med. and Surg. Journal, Vol. v. p. 281.

† Ibid. vol. iv. p. 433.

Variola still increasing, and commits great destruction on the helpless community.

Typhus still appears in the contagious form.

Pneumonia and bronchitis asthenica were prevalent diseases.

Rubeola begins to extend itself.

February.—Rain fell on the following days, 3d, 5th, 6th, 9th, 10th, 11th, 12th, 13th, 14th, and 15th; in the night of the 2d, 4th, 5th, 10th, 17th, 22d, and 23d; and snow on the night of the 8th. The wind chiefly westerly.

Variola appeared to have arrived at its highest state of virulence, and towards the latter end of the month became milder.

Varicella in a few cases, and of a kind much resembling the pearl small-pox.

Pneumonia and Catarrh were very prevalent.

The *Synochus*, which prevailed this month, was attended with the following symptoms: much pain in the head; thirst; yellowish tongue; flushed countenance; tumid and painful abdomen; irregular bowels, either obstinately costive or very lax; high coloured urine; oftentimes short dry cough; pleuritic pains; bad appetite, and a quick feeble pulse. A brisk purgative in the beginning of the disease gave immediate relief. Bleeding was in general detrimental, particularly when repeated, and seldom failed to increase the debility consequent on the typhoid stage. The pleuritic stitches were, in some instances, so severe, that the same disease was called pneumonia or rheumatism, and the treatment varied accordingly.

March.—Rain fell on the 17th, 20th, 24th, 26th and 30th; and in the night of the 4th, 8th, 19th, 23d, and 24th. The wind chiefly easterly. The weather of this month was remarkably fine.

Pneumonic diseases were prevalent and severe during the whole month, but more particularly in the first half; the atmosphere, during that time, was very clear, with the wind mostly in the N. E. quarter, and the barometer never under 30.00; it even averaged, for the whole month, at 29.99. It is a general observation of Huxham, that this state of the atmosphere is particularly favourable to inflammatory affections.

Synochus was frequent and obstinate.

Horses were much subject to pneumonic attacks, or fever, wit pleuritic symptoms; the disease was obstinate, and left great d bility. Many died.

Variola still continued fatal, but somewhat moderated. Th disease has been very slightly noticed during the whole of t paper; to do it any justice, would have occupied too much sp in the journal. The reporter has, in consequence, determin prepare for the public a history of the epidemic, as it occurred in Nottingham in 1808-1809, from ample documents, collected at the time, which will be condensed into a separate form, and followed by a history of the Vaccine Institution of this place, with a statement of the method in which it has been conducted, and the valuable facts deduced from the practice.

The next thing that calls for our attention is the meteorological table, which has been so amply explained in the last volume of the Journal, that it does not require any further comment.

Meteorological Table for Nottingham, from April 1808 *to March* 1809.

1808.	Thermometer.				Barometer.				Weather.		Winds.				Pluviameter.
MONTHS.	Maximum.	Minimum.	Medium.	Greatest range in 24 hours.	Maximum.	Minimum.	Medium.	Greatest range in 24 hours.	Fair.	Wet.	N. & N. E.	E. & S. E.	S. & S. W.	W. & N. W.	Rain in inches and decimals.
April, -	56°	30°	43.62	10°	30.20	29.07	29.79	.51	13	17	14	2	27	47	3.85
May, -	82	48	59.61	11	30.17	29.47	29.84	.24	21	10	21	20	41	11	1.94
June, -	72	50	59.95	9	30.25	29.62	29.91	.30	19	11	18	26	19	27	2.32
July, - -	89	54	67.19	12	30.16	29.54	29.89	.21	24	7	19	17	36	21	2.10
August, -	76	53	64.62	10	30.17	29.35	29.78	.71	20	11	7	9	42	35	.91
September,	68	40	57.32	9	30.28	29.28	29.76	.38	19	11	29	7	26	28	2.37
October, -	60	34	46.31	10	30.32	28.98	29.62	.91	19	12	10	6	40	37	2.57
November,	55	30	45.06	13	30.25	28.72	29.76	.68	17	13	26	15	26	23	2.18
December,	49	22	37.96	14	30.26	29.08	29.76	.55	21	10	30	4	27	32	1.80
1809.															
January,	53	17	35.29	14	30.05	28.65	29.44	1.13	18	13	14	18	9	5	1.80
February,	54	30	43.00	14	30.33	28.68	29.62	.74	18	10	2	3	33	16	1.69
March, -	62	30	44.00	10	30.38	29.00	29.99	.40	26	5	22	6	9	15	.75

Annual Results.

Thermometer.

Highest observation, July 13th,	89°
Lowest observation, Jan. 22d,	17°
Greatest range in 24 hours,	14°
Annual mean, - - -	50.32

Barometer. *Wind.*

Wind S.W. Highest observation,
March 2d, 30.38r. N.E.
—— N. Lowest observation,
July 30th, 28.65f. S.E.
Greatest range in 24 hours,
Jan. 30th, 31st, 1.13
Annual mean, - 29.76

Weather.	*Days.*
Fair,	235
Wet,	130
	365

Winds.	*Times.*
N. & N. E.	212
E. & S. E.	133
S. & S. W.	335
W. & N. W.	297
	977

Rain.	*Inches.*
Greatest quantity, in April,	3.85
Smallest ditto March,	.75
Total quantity for the year,	24.28

Remarks.—The barometer is firmly fixed to a standard wall over a stair-case, on a level of 130 feet above the sea. The pluviameter is placed in a garden, on an elevation of 140 feet above the sea.

We now proceed to present a copy of the auditor's report of the patients admitted and discharged at the General Hospital, from March 25th 1808 to March 25th 1809.

	In.	*Out.*	*Total.*
Remaining on the books, March 25th 1808,	57	419	476
Admitted since, of which 149 were accidents,	366	1058	1424
	423	1477	1900
Cured, - - - - -	205	854	1059
Relieved, - - - -	26	77	103
At their own request, and irregularity, -	33	27	60
Non-attendance, (most of whom were cured),		161	161
Without relief, - - -	7	3	10
Dead *. - - - - -	14		14
Out-patients made in-patients, - -		33	33
In-patients made out-patients, - -	93		93
Remain on the books, March 25th 1809. -	45	322	367
	423	1477	1900

Of this number, 149 persons were admitted on sudden accidents, without any recommendation, and there have been, since March 1808, six amputations, and five cut for the stone. The average number for the last year has been 50 in, and 362 out-patients.

The table of diseases follows the same arrangement as that introduced in the 4th volume, where the whole plan is explained. It may be subdivided into three heads of practice :—

	Patients.
The General Hospital received	1424
The Vaccine Institution	1203
The Reporter's private practice †	1185
Total	3412

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* No accurate account of deaths among the out-patients can be procured.

† The small-pox is included in this head.

TABLE *of* DISEA

DISEASES.	AGES,						
	5	10	15	20	25	30	35
Intermittens	2	1			2	6	5
Synocha				1	2	1	2
Typhus	3	7	3	1	5	2	4
Synochus	26	7	16	10	20	22	12
——— infantum *	100	22	10				
Phlogosis	6	1	7	5	5	4	3
Ophthalmia	8	5	5	4	3	8	3
Phrenitis							
Cynanche tonsillaris			1	1	2	2	1
——— trachealis	4						
——— parotidea					2	1	
Pneumonia	11	2		7	7	8	11
Bronchitis asthenica +			1		1	2	9
——— chronica +							
Catarrhus	13	2	3	5	6	8	9
Phthisis			5	15	18	14	13
Peritonitis					1	1	2
Enteritis				1	1	1	
Hepatitis				1			1
Nephritis							1
Rheumatismus	1	2	1		1	2	5
Arthrodynia			1	2	7	5	6
Podagra							1
Pleurodynia ‡				2			1
Enterodynia ‡		1				2	3
Hepatalgia ‡						1	2
Nephralgia ‡							1
Hæmoptysis			1	2		4	1
Menorrhagia					3	3	3
Dysenteria		1	1			3	1
Apoplexia							
——— hydrocephalica	1		1				
Paralysis	3			1	2	1	2
Dyspepsia	1		2	4	12	29	12
Gastrodynia ‡				2	5		7
Hypochondriasis						1	1
Convulsio	2						
Chorea		2	1				
Epilepsia			2	1	1	1	
Asthma						1	2
Colica							2
Cholera	15	1	1	2	1	1	1
Diarrhœa	2	1					1
Diabetes							
Hysteria				2	16	6	7
Hydrophobia							
Cephalalgia ‡			1	1	3	5	1
Cephalæa ‡					1	1	1
Hemicrania ‡					1	2	2
Tabes	7	1	2	1	1		
Atrophia					2	1	4
Asthenia ‡	1	3	2	3	2	8	12
Anasarca					[illegible]	[illegible]	[illegible]

DISEASES.	5	10	1	March 25.	TOTAL.
Brought over.....	206	59		13	1389
Hydrothorax,					7
Ascites,				1	7
Hydrocele,	1	1			4
Angina Pectoris,					2
Physconia,	1				6
Scrofula,	15	10		6	61
Syphilis,	4			3	46
Icterus,	3	1			9
Eneuresis,					2
Gonorrhœa,				1	14
Dysuria,		1		1	29
Amenorrhœa,					75
Strophulus * (red gum),	2				2
Lichen * (Spring eruption),	1				7
Prurigo * (universal itching),	13	4		5	30
Lepra * (Grecian leprosy),				1	5
Psoriasis * (dry tetter),	1				5
Rubeola * (measles),	6	1			7
Scarlatina * (scarlet fever),	2	1			11
Urticaria * (nettle rash),	1	1			5
Roseola * (rose rash),	1				4
Erythema * (red rash),	1	2			6
Erysipelas * (St Anthony's fire).	1				4
Pemphigus * (Vesicular fever),	3				3
Pompholyx * (water blebs)		2			3
Impetigo * (running tetter),	7			1	8
Variola * (small-pox),	325	120		2	458
Scabies * (itch),	1	4			13
Porrigo * (scald-head),	16	12			32
Herpes * (ring-worm),					1
Varicella * (chicken-pox),	12	1		1	13
Vaccinia * (cow-pox),	1031	105		4	1203
Elephantiasis * (Arabian leprosy)					2
Caligo,		1			6
Amaurosis,				1	6
Calculus,					7
Strictura,				1	5
Hernia,					2
Bronchocele,	1			1	6
Tumor,	1	2		1	14
Scirrhus,				1	10
Cancer,					[illegible]
Hydarthrus,	1			4	[illegible]
Contusio,	3			5	
Fractura,	2				
Luxatio,				1	
Vulnus,	14	1		4	
Ulcus,					

II.

Observations on Purulent Ophthalmia. By WILLIAM GOODLAD, Member of the Royal College of Surgeons in London, &c.

I HAVE been led to make the following observations, from perusing the "case of purulent ophthalmia, with remarks on the origin of that disease," by your very respectable correspondent, Mr Simmons of Manchester, and shall feel obliged by their insertion in your journal.

The existence of purulent ophthalmia in children, whose mothers were affected with leucorrhæa at the period of parturition, has lately received considerable attention from Mr Gibson, though it appears that we are indebted to Mr Ware for the original opinion of "an acrimonious vaginal discharge" being the cause of the complaint. His opinion, Mr S., with great ingenuity, has endeavoured to controvert.

That purulent ophthalmia will originate independently of such a cause, no one will for a moment doubt; but, though I admit the full force of Mr S's. arguments, they do not, I fear, entitle him to assert that he has "demolished the hypothesis;" at least, there is strong conviction in my own mind, that such is often the cause of the disease.

"Admitting," (says he), "for the sake of argument, that the discharge of fluor albus had possessed a property adequate to the alleged effect, the increased mucous discharge preceding parturition would dilute, or carry off any former collection of this noxious fluid." I shall premeditate the inference drawn in this sentence, by inquiring, whether "the mucous discharge preceding parturition" be not secreted from the same source which secreted the discharge constituting leucorrhæa during pregnancy? and, if so, whether we ought not to expect this "mucous discharge" to be "acrimonious" also? I infer this, because, though the secretion of such a fluid be in itself perfectly natural, yet, if secreted from a part under the influence of diseased action, it is, I believe, perfectly consistent with pathology to assert, that *that* discharge will be morbid also. The stimulus, which excites the discharge of a large quantity of mucus, has no power to alter the properties of the secreted fluid; that the stimulus of labour, (if I may be allowed the expression), possesses no such power, is proved by the continuance of the disease on the recovery of the patient. To "the dribbling or sudden flow of the liquor amnii," much preventive power cannot, I imagine, be ascribed, since mucus is incapable of solution in it. It is, indeed, for wise purposes otherwise ordained. The mucous discharge then becomes most necessary.

The phenomena of parturition, therefore, on which the author rests with so great confidence, would appear rather to facilitate than prevent the application of irritating matter to the eyes of the child; the question then is, if this matter be adequate to the effect assigned?

Mr Simmons, with great candour, admits, "that where the mother had been affected with fluor albus at the time of labour, and the purulent ophthalmia had ensued in the child, such an opinion might be specious at first sight; but," (adds the author), "when we have considered the frequency of that female affection, and the comparative rareness of this species of ophthalmia, we shall be inclined to doubt the validity of the opinion." It would appear, then, that Mr S. expected ophthalmia as an inevitable consequence of the complaint in question, though, if he will reflect a little on the laws which govern morbid animal poisons, he will wonder at his own expectations. He will recollect, that matter, most certain and most violent in its effects, does not necessarily and invariably produce its specific action in the part to which it is applied, how then could he expect it of one possessed of comparatively little activity? But, because it has not always that effect, it is surely inconsistent to say that it is incapable of it.

Besides, in cleansing the eyes of the infant from the matter lodging upon them, we apply a means in itself equal to the prevention of the complaint. Such a custom, I imagine, must have been prevalent in the practice of the "medical friend" to whom Mr S. alludes. At any rate, it can be no support to Mr S's. opinion, to attribute the origin of the disease to a cause still more general, a cause which is acting in every case.

"Within my own observation," (he continues), "the purulent ophthalmia has occurred where the existence of leucorrhæ
was denied;" from which fact, a fact which every man's pra
tice must have afforded him opportunities of confirming, he cc
cludes, that it arose independent of the application of *any* ma
to the eyes of the child; but that "the stimulus of light," "
jury in the birth," "sudden exposure to cold and moisture," :
"a peculiar constitution of the atmosphere," are separatel
conjointly the efficient cause thereof. This appears, how
mere matter of opinion; and however respectable the author
nions must be inquired into ere they are admitted. We sl
expect some "result of cause and effect," some "coinci
of circumstances," to render them even "specious."

the author does not insist upon their accuracy, or deem them "incontrovertible," I shall be excused from urging the subject farther.

Having endeavoured to shew that the production of purulent ophthalmia from the matter constituting fluor albus is consistent with the laws of morbid animal matter, I shall beg leave to claim Mr S's. attention to those modifications of matter which will become animal poison, when applied to another person, though not the effect of disease in the persons themselves. To Mr Hunter we are obliged for the first observations on this subject. He noticed, that a transplanted tooth would produce an ulcer in the gums, similar to a venereal ulcer, though it was well known, that the person from whose mouth it was taken never had the infection. The secretion from the mouth of a new-born infant will produce ulceration around the nipples of a female: and the mouth of other infants be affected by the secretions from around the nipple of a nurse perfectly healthy. Mr Abernethy has added many valuable observations on this subject. He has shewn, that a secretion from the vagina of women labouring under no evident disease, will produce inflammation in the urethra, and ulceration on the glans penis of a person who has venereal intercourse with her. The analogy in this case appears immediate and direct. I know no part so susceptible of being affected by irritating matter as the eyes; and this matter being applied to the inner surface of the eye-lid, will naturally produce an increased discharge of the mucus serving to lubricate the part. In short, it appears to me, that though the purulent ophthalmia of children most frequently arises from the matter discharged in leucorrhœa, yet that the eyes are susceptible of the same species of inflammation, by an apparently inoffensive discharge from this part. I am aware, however, that this opinion must rest, at present, rather on probability than actual demonstration. The latter it may be difficult to procure. The path, though open, has been little searched into, but may extend wider than we can conceive *. At least, I am averse to a theory, however ingenious, which refers the origin of disease to an hidden cause, and which precludes any farther attempt at improvement.

"In Roscoe's case, doubtless the disease must have had a different origin." When I have said that I fully accord with Mr S. in this opinion, I may add, that inflammation of this organ is modified, like typhus fever, by the greater determination of blood to

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* I am not certain but that some of the eruptions which have appeared since the cow-pox may be thus accounted for.

to different parts. We have cases where the globe of the eye, others where the iris is chiefly affected, and the eye exceedingly sensible to light, with little external inflammation: others, again, where the great discharge of tears shew the lachrymal parts of the eye to be principally inflamed; and many also, where the symptoms prove the mucous follicles to be the seat of the disease, where, indeed, they may be seen enlarged within the eye-lids. Cases are so frequent where the meibomian glands alone are inflamed, that it appears superfluous to notice them; and though any or all of these varieties may be combined, it would not be difficult to produce cases to justify the distinction. Mr Simmons's case I have ventured to consider illustrative of one of these; to consider it as common inflammation of the mucous follicles. This appears to me to account for the phenomena of the case, and I see no reason why " a peculiar constitution of the atmosphere" should be more productive of the disease here, than of inflammation in any other part of the organ; the phenomena of which are modified, rather by the action of the part inflamed than by the peculiar nature of the exciting cause.

In the treatment of this species of ophthalmia, the common practice is to inject astringent washes within the eye, by which means the matter is washed away, and the parts excited to an healthy action. This is the method recommended by Mr Ware. To conduct us in this mode of treatment, I may apply a maxim, for which I am indebted to Mr Abernethy, and which governs his conduct in the treatment of a most troublesome complaint, viz. that where " the stimulus you use is not sufficient to produce reaction, irritation and sensation are decreased by it." The practice, however, which has appeared to me most efficacious, has been the division of the inflamed vessels; and, in proportion to the freedom with which this is effected, will be found the subsequent relief. In addition to this, I have directed a fomentation to the eye, and, in some cases, given a brisk cathartic. This treatment has speedily terminated the complaint. Sometimes, indeed, a thickening of the palpebræ remained, which it was necessary to remove by the application of some stimulating ointment.

Such are the observations I have taken the liberty to make on this subject. I am emboldened to hope for an excuse of this liberty from Mr Simmons, from his well-known zeal in the practice of his profession. I have often had the happiness to be a witness of his abilities as a surgeon, and am gratified in the opportunity now offered me of expressing my sense of them, and my thanks for the uniform kindness and attention I received from him.

August 5th 1809.

III.

Observations on the Fever which appeared in the Army from Spain on their return to this Country in January 1809. By JAMES M‘GRIGOR, M. D. Inspector of Army Hospitals for the Portsmouth, Severn, and South West Districts.

THE healthy state of the troops during the winter quarter, as shewn by Table No. I. in the districts where I have the medical superintendence, was interrupted by the arrival of the wreck of our unfortunate army from Spain. The first transports with them arrived at Portsmouth, about the 20th January, when they appeared more the victims of disease than of the sword of the enemy, severely as they had suffered by that.

The unfortunate circumstances under which this army was placed, will readily account for the appearance of a mass of disease, and of the worst character. A dispirited retreating army, in which order and discipline, so necessary to its health, were with difficulty maintained, badly clothed, marching over a desolated country, in the most inclement season of the year, was readily predisposed to disease. In their retreat, the British army mixed with, or followed in their route, the remains of that army which the Marquis de Romana had transported from the shores of the Baltic; a fever of the most malignant character had committed great havoc in Romana's army, and the contagion of it was readily communicated, under the above circumstances, to the retreating British army under Sir John Moore. It has been said, that this army had likewise been debilitated by marches, harassing and long, beyond their physical powers; and it is acknowledged on all hands, that they suffered much by irregularities on their march, and an indulgence in intoxication the most disgraceful.

After the action of Corunna, the army, imbued with disease, some corps more, some less sickly, was thrown on board transports, and mixed together. During the voyage to England, which proved a very tempestuous one, it was not easy to keep up ventilation, and to preserve that state of cleanliness of the persons of the men, as well as of the ships, which is at all times so necessary to the preservation of health afloat.

Under such an accumulation of misfortunes, it will not appear surprising, that, as it arrived at Portsmouth and Plymouth, every part of the army was found to be unhealthy. It was observed, however, that that part of it which, under General Crawford, embarked at Vigo, was much more healthy than the main body which embarked at Corunna; indeed, the light corps who embarked at Vigo, continued tolerably healthy, until, at Portsmouth and other quarters, they mixed with the other divisions of the army.

It was not, however, only in Spain, or on leaving its shores, so fatal to Englishmen, that Sir John Moore's army was unprosperous. Misfortune continued to pursue them to their own shores. So tempestuous was the weather for some days after the ships had arrived at Portsmouth and Plymouth, that it put a stop to all disembarkation and communication with the shore, while disease was hourly making rapid progress in every ship of a very large fleet.

But as it is probable that the whole of the misfortunes of this brave but ill-fated army were induced by causes which no human ability could have foreseen or averted, let us not, at this period, attempt to withdraw the veil with which time is fast covering them.

Would that we could so far profit by them, as in future to prevent their recurrence; or, if such misfortunes are inevitable in the present state of human affairs, at least to mitigate the miseries of the soldier! What could be done by the gentlemen of the medical department in Spain, under circumstances the most arduous, I firmly believe was done. I willingly bear public testimony to the great zeal and humanity of these gentlemen on landing at Portsmouth, as well as of the other medical gentlemen employed to attend a sick army here. Theirs was a service of as real danger as any that had occurred to military officers in Spain; and it is much to be lamented, that so many of them fell a sacrifice to the zealous and unwearied discharge of their duty here.

No II. is a table which shews the state of the sick of the army from Spain received into the hospitals here, with the state of the deaths from each disease, for the period of half a-year, viz. from the 24th January, the date of the arrival of the troops from Spain, to the 24th July 1809, when only 14 cases from this army remained in our hospitals here under treatment.

The proportion of mortality, as shewn by the above table, very high, particularly in fever, pneumonia and dysenter but the very unfavourable circumstances under which, it been stated, the sick of this army reached our shores, will rea ly account for this.

On the arrival of the first ships, several died in the boats which brought them on shore, and were brought corpses into the hospitals, while the greater part was in the last stage of low fever. It is my duty likewise to mention, that, for some time after their arrival, the relapses, both in dysentery and fever, were extremely frequent; and that, though the conversion of these diseases frequently occurred, yet, as this could not be in every instance ascertained with accuracy, it is not noticed at all in the table. It will be evident, that, if these circumstances were introduced, they would greatly lessen the proportional mortality.

The men who recovered in the naval hospitals were first sent to Fort Monckton, which was appointed as a convalescent hospital. As they advanced in recovery, they were removed from thence to Hilsea barracks, where they remained till they joined their regiments. But, from the irregularity of the men at these two stations, as well as from some other causes, relapses were extremely frequent in fever and dysentery. Cases that commenced as fever became dysenteric, or vice versa, and not a few of those, who had at first laboured under these two diseases, fell into pneumonia. None of these occurrences are, however, brought into the table, nor in the lists do the same names appear twice.

In the symptoms, the fever which was prevalent varied much at the different periods at which it appeared, and in the different description of subjects it attacked. At first, in some cases which I saw on ship-board, and in the first cases which were received into the hospital, most of them being in an advanced stage, had the symptoms of what is described a nervous fever, with not a few of the appearances said to denote a state of putrescency, the body being covered with petechiæ, maculæ and vibices, and there appearing (as was reported to me) in a few cases, glandular or bubonic swellings. This was the case with those first received into the naval hospitals, into the two hospital ships, into the depôt hospital at Hilsea, and at the general hospital at Gosport, particularly with about 100 cases received there from Hilsea, when this station overflowed.

In the cases of several officers first landed (I understood that the same had frequently been observed in Spain), the pulse was found but little altered from the natural state, and an inattentive observer would think the patient ailed little; but while there was not great prostration of strength, and even when food was called for, an obscure low delirium might be discovered, with a tendency to despondency and melancholy.

A prominent feature of the first cases of this fever, which made their appearance on ship-board, or immediately after landing, as well as in those who had been attacked in Spain, was the strong disposition to gangrene in the feet and legs. This was, most probably, induced by the previous circumstances of great fatigue and long marches, undertaken by the exhausted soldier, where, in many instances, he was badly provided with shoes. The tendency to mortification in the sacrum and back was likewise great, and phlegmonous abscesses frequently appeared on other parts of the body. In some cases, erysipelas was seen; but the most constant symptoms in this fever was the great determination to the head and chest, with, in many cases, a torpor of the abdominal viscera.

Though, as first seen here, when the army disembarked from Spain, the fever had low nervous, and likewise putrid symptoms, and was called typhus, (a term in by far too general use), yet, in most of the cases, it was of a very different type; and several gentlemen were of opinion, that, though in the cases first landed here, the typhoid symptoms were seen, that the disease had commenced with those of a different form of fever. Neither in the case of Dr Clarke, in that of Mr Lind, surgeon of the 43d regiment, nor in that of Mr Foaher, surgeon to the West Essex Militia, was the fever of the typhoid type, though they were attacked with the disease during their attendance on the sick from Spain. In all of them, there was strong arterial action, and great topical determination.

I have heard, that, in the cases of some other of the medical gentlemen attacked, the symptoms were those of nervous fever. I saw that this was the case with Mr M‘Gregor, surgeon of the Military Asylum, who volunteered to act as staff-surgeon here, in Mr Aubert of the Guards, and in that of Mr Hawkins of the Oxford Militia.

I may here mention, that there were in attendance on the sick and wounded soldiers from Spain at this place

8 Physicians to the Forces,
10 Staff-Surgeons,
20 Regimental Surgeons,
30 ———— Assistant-Surgeons,
44 Hospital Mates,
1 Apothecary,
3 Deputy-Purveyors,

Making a total of 116 medical officers, besides Mr Hogg, who, as Deputy Inspector, superintended at the Naval Hospital, and Mr Aveling, who superintended at the General Hospital, Gosport, while I acted immediately under Mr Knight, the Inspector-General, who directed the whole, formed the general arrangements, and communicated with head-quarters.

Of the above number of medical officers, twenty-one suffered severe attacks of the fever, and six of them died, viz. Deputy-Purveyor Emmerson, Surgeon M'Gill, of the Royals, Surgeon Massiter, of the 26th Regiment, and Surgeon Lind, of the 45d Regiment, Assistant-Surgeon Turner, 95th Regiment, and Hospital-Mate Willmot.

The cases which made their appearance while the troops were in harbour here, or immediately after landing, had, I believe, almost universally topical determination, in a greater or less degree; the head was very frequently affected, but more frequently the lungs and pleura. In the progress of the disease, imperfect hearing and bluntness of all the senses were frequently attendant symptoms.

After the troops were landed, and had been marched to cantonments, in different parts of the kingdom, some degree of contagion was unfortunately kept up in most corps by the men's clothing, though, in every quarter, by the means which were used, contagion was speedily destroyed; however, in those situations, the fever appeared with features much milder.

The severest cases were sent on shore at Portsmouth and Plymouth, the two great points of debarkation, which made the principal mortality fall on those two quarters.

Some very severe cases, all those from one regiment, the 51st, went to the depôt hospital, Isle of Wight.

The number of sick which was landed at Plymouth, though very considerable, was less than what was landed at Portsmouth; and, as Mr Grant informed me, the proportion of mortality was considerably less in that quarter. Though many of the sick, at subsequent periods, were sent to the hospitals at Ramsgate, Deal, and Chelsea, as well as to the noble hospital of the Royal Artillery at Woolwich, but a very inconsiderable mortality fell on any of these places. Dr Willman informs me, that of 400 cases of this fever, which they admitted at Woolwich, they lost only thirty-six, or less than one in eleven. I believe that Dr Price at Chelsea, and Dr Veitch at the Ophthalmia Depôt (whither a few cases went accidentally) were equally successful.

It was not a little curious to observe the different appearances which, at different periods, in the various subjects of its attack the disease wore. As already mentioned, the cases which were first landed, and they were mostly in an advanced stage of the disease, all appeared to be pure typhus. Those which made their appearance after the ships came to anchor here, whose first stage we had an opportunity of seeing, had a considerable degree of re-action, with generally topical determination.

The orderlies or attendants on the sick were provided from the 8th Royal Veteran Battalion, or from the regiments of militia in garrison here. A considerable number of these orderlies were attacked with the fever; and in all these corps several cases of it appeared, but with varied features. While the old invalids of the 8th Royal Veteran Battalion, who suffered much by this fever, had it with its lowest symptoms, yet, in almost all of these men, catarrhal or pulmonic symptoms were seen. In the healthy and robust frame of the militiamen, as well as in the men of the German Artillery, the disease, when it appeared, assumed a very different character. They, in the first stage, had always the strongest arterial action, with great determination either to the head or to the chest; in many cases bordering closely on pneumonia, where the great and only relief was by venesection and evacuants, the blood, after the second or third operation, always shewing what is called the inflammatory crust.

As will be shewn by the table of diseases for the spring quarter, (Table, No. III.) the Spanish fever made but little progress among the ten corps in garrison here.

The West Essex regiment of militia lost five cases of this fever, and four of these men had acted as orderlies with the sick in the Naval Hospital at Haslar. Mr Foaher, the surgeon, in his report, says, "that most of the cases which occurred with him were the typhus gravior, but had commonly been attended with cough, and the symptoms of pulmonic inflammation in the first stage."

In most of the cases which occurred in the hospital of the King's German Artillery, Dr Kiels, the surgeon, observed inflammatory action.

Mr Fosbrooke, surgeon of the Durham Militia, reports, "that all the cases which he admitted into the Durham Hospital were the synochus, and that some of them closely approached to synocha. They commenced with strong arterial action, the patient having the appearance of inflammation going on in one quarter or other; but after a few days, there appeared a tendency to typhus. When petechiæ were seen, the excretions were scanty and fetid, particularly the alvine; in most cases dark, in some seemingly mixed with blood."

The report of Mr Kent of the Oxford Militia was, in most parts, the same as Mr Fosbrooke's.

In many of Mr Kent's cases, remissions were plainly marked; but in no case was there apyrexia during the interval.

Agues were more prevalent than usual in this quarter, about the time that we had the Spanish fever, as well as after this period. Several cases of this fever in the Fifeshire as well as in the Oxford Militia terminated in intermittents.

In the hospital of the Worcester, Lancashire, and Middlesex regiments of militia, the cases of fever which appeared had most of them a catarrhal character, though a few cases of marked typhus certainly did appear in the hospital of the Middlesex.

Some of the severest cases were sent early to the Artillery Hospital, under Messrs Price and Arminger. In his report, Mr Arminger says, "In the first attack, with extreme langour and lassitude, there were severe aching pains in the head, back, and large joints. As the disease advanced, the temperature during the exacerbation rose very high, (not determined by degrees for want of a thermometer), especially in the cases which did not come under my treatment till the 3d or 4th day of the disease. The heat was pungent, the sensation to the patient, as well as to the observer, burning, in most of the cases pretty equally diffused; but in those in which the determination to the head was greatest, the lower extremities, particularly the feet, were generally deficient in warmth, sometimes very cold. The pulse frequent, and certainly both harder and stronger than in the typhus mitior of Cullen; the urine deficient of high colour, and remaining long unaltered in its appearance; considerable determination to the head, as evinced by fulness and flushing of the countenance; headach of the throbbing kind; vessels of the tunica adnata turgid; temporal arteries seem to pulsate strongly; delirium of the more lively kind; increased susceptibility of impression; correspondent impatience and restlessness; want of sleep. When the determination to the head was still greater, it was characterized by drowsiness, stupor, delirium mite; and, in cases which ended fatally, coma, floccitatio, and subsultus tendinum."

Mr Arminger concludes a very accurate report, by observing, that during the period of the prevalence of this fever, agues were more frequent; and he adds, "the majority of the cases of fever which I saw were the synochus of Cullen; but I feel disposed to class some with remittents."

Dr Clarke, who had latterly the sole charge of the General Hospital at Gosport, and who at first had the charge of the majority of cases of fever there, writes me, "That, in the eighty cases under my charge, which came from Hilsea, it appeared pure typhus gravior; but, from what I have since seen, I suspect, that even those cases had, in the beginning, every symptom of synochus. They were of from eight to ten days standing; the symptoms of debility and putrefaction were strongly marked; there were petechiæ or vibices in almost every case.

Dr Keating, who was in charge of the Depôt Hospital at Hilsea, to which, as well as to the Naval Hospital, most of the severest cases which were first landed were sent, makes a similar report of about 200 cases which he had, almost every one of whom came to him covered with petechiæ.

The cases in the two hospital-ships, under the management of Dr M'Donald, were of the same kind. I may in this place mention further, that I learn from my friend Mr Burnett, who superintends the hospitals for prisoners of war in this quarter, that at the same time that our army landed from Spain, many prisoners were brought over, whose disease appeared to be the same fever as that under which our soldiers laboured. Mr Burnett had frequent opportunities of seeing this disease on a very large scale. It was this gentleman who, in conjunction with Dr Cabbel, had the treatment of Dr Clarke, whose case, drawn up by himself, is subjoined. Mr Burnett says, in a statement with which he has favoured me, "that he has no doubt of this disease having been inflammatory from the beginning. I accordingly treated it with liberal evacuations, and in no instance, when the patient came under my care in his first attack, did I fail of producing a complete remission in twenty-four hours. Though the disease did, in some instances, assume the form of synochus, it was only in such patients as had not been evacuated in the early stage of the disease. I had about fifteen or sixteen of my nurses taken ill; they were bled to sixty or seventy ounces the first day they complained, and none of them died." Mr Burnett's authority is of considerable weight. The prisoners of war here are seldom under 10,000; and in the hospitals under Mr Burnett there are seldom fewer than 300 sick.

I must not conceal, however, that the fever prevalent at this time appeared with features extremely different in other quarters. In an accurate memoir of Dr Lemprere's, which he was so kind as to permit me to peruse, I see that the cases received into the Depôt Hospital, Isle of Wight, were pure unmixed typhus.

Besides, in the hospitals in Portsmouth and its vicinity, this fever was likewise reported to me as having appeared in different quarters of the Severn and South West districts. At Winchester and Dorchester, it was found necessary to establish hospitals for the sick of the army from Spain, who fell ill on the march from Plymouth; and many were received into the hospitals at Weymouth, Bridport, and Bristol; but, from the reports made to me, I find that the disease in these quarters was the same as here, and that but a very small mortality had occurred at any of these stations.

Though in the Spanish fever sometimes a crisis was ushered in by diarrhœa, diaphoresis, a flow of urine depositing a sediment, or, in a few cases, by epistaxis, yet, in the majority of the cases, the functions gradually resumed their healthy state without any critical evacuation, and this they did more quickly, as the determination to the head or lungs was earlier removed.

Mr Arminger observed, "that when mercury was employed, the febrile action seemed to yield as the mercurial action was established."

In some of the earliest cases of this fever which I saw here, the termination was dragged out to a long period. Mr Kent, of the Oxford Militia, found most of his cases protracted to the 14th day, though he had several which terminated on the 7th.

Mr Arminger found three out of four of the fatal cases fall on the 7th and 5th days. Mr Foaher found the fatal cases terminate most frequently on the 5th day. Mr Palmer, of the Lancashire, found most of his terminate on the 7th. Mr Fosbrooke on the 7th, 9th, and 11th. Dr Kiels on the 7th and 8th days.

There was some variation in the appearances found on dissection of the dead. I regret that the regulations of the Naval Hospital did not allow our dissecting but a very few of the cases which died there. In all the other hospitals, agreeable to the rules which I established, ever since I have had any charge, a dissection was made of every case which died, and, with a very few exceptions, this was done.

The reports of the dissections made at the General Hospital, under Dr Clarke and Mr Aveling, describe in several cases an affection of the brain being observed, the vessels in each hemisphere being found turgid; water frequently in the ventricles; the substance of brain in some case soft and pulpy. On opening the chest, both lobes of the lungs frequently bore marks of previous inflammation; in some cases, adhesions of the pleura, with some water in the pericardium.

The tenor of the reports made from the most of the hospitals was the same; but in those which I have from the 8th Veteran Battalion, West Middlesex, and Worcester Militia, no morbid appearances were seen either in the head or chest.

The treatment, I found, varied very much with the different practitioners; the varied form in which the disease appeared called for this variety in practice. Most of the gentlemen who practised in the Naval Hospital treated the disease as typhus, giving cordials and stimulants. I believe few of them used the cold affusion. This was in use at Hilsea, along with cordials and stimulants, in Dr Keating's practice. At the General Hospital, Dr Clarke and Mr Aveling, with the gentlemen under them, constantly used the cold affusion, unless when forbidden by the rules laid down by Drs Currie and Jackson.

I think that there were fewer cases in the General Hospital with inflammatory symptoms, or pulmonic affection, than in the other hospitals. Most of the cases in the General Hospital had been received from other hospitals, or were cases of relapse, after having been dismissed cured from the Naval Hospital, or hospital ships.

Dr Clarke says, that on their admission into the General Hospital, "every patient was put into a warm-bath, and made thoroughly clean; they were then freely evacuated by purgative medicines, and frequently the fetor of their stools was intolerable. Whenever the heat of the surface was above the natural standard, the cold affusion was freely used; this degree of heat was often induced artificially by stimuli given internally. I recollect one case in particular, where, on admission, the pulse was hardly perceptible; the extremities were cold, and the patient appeared to be rapidly sinking. After the warm-bath, he was put to bed, and, as deglutition was easily performed, he had stimulants freely given; the pulse soon rose; the heat of the surface became intense. In this state, the cold affusion was instantly used, and, with the happiest effect; the disease ran its course, but the symptoms were comparatively mild. Wine and other stimulants were given in every instance, so as to keep up sufficient action. This required much attention, as the danger of giving too much appeared in many cases more alarming than the disease.

"There were three very interesting cases among the eighty which I received from Hilsea, which, on their admission, had hardly any marks of vital action; the face, hands, and feet were livid; the strongest stimulants were in those cases applied, such as general friction with volatile liniment, sinapisms, &c.; internal stimulants, when deglutition was practicable, were also used. Two of these three recovered; but in one of them the toes sphacelated. Of the whole eighty cases, I think four or five died during the twelve days I had charge of them; the others seemed in a state of convalescence; but I believe a few relapses took place.

"The appearances and treatment was much the same on board the hospital-ships; there were but few cases of fever, and I do not recollect one fatal case. In none of these instances was the lancet employed; but I have since used it pretty freely, and with success, whenever there is any symptom of local affection,

fection, such as pain in the head, thorax, or abdomen, even where the pains in the extremities are much complained of, and the arterial action considerable. In those cases, the typhoid type has seldom appeared, and I am well satisfied of the utility of the lancet in pyrexia, where there is the slightest symptom of local affection. You are not unacquainted with my own case, in which the lancet was so freely used; and I yet reflect on the relief I felt at each bleeding, with gratitude to the able advisers, Dr Cabbell and Mr Burnett. I had only once an opportunity of using the cobweb since I learned from Dr Jackson the extraordinary properties of that substance; it was in the latter stage of chronic dysentery, where there was much anxiety and great irritability; and in that case, it certainly had all the good effects attributed to it by the doctor. The patient became quiet and easy immediately after taking five grains of it."

In the Artillery Hospital, Mr Arminger "used purging on the admission of his patients, both to remove the torpor of the abdominal viscera, and to relieve the determination to the head." Mr Arminger sometimes used the aspersion with cold water, and sometimes cold affusion. He says, "that no case proved fatal in which mercury had a fair trial. It seemed to produce great good when the determination to the head induced stupor. In two cases in which the usual means had been carried to their full extent previously to its use, and little or no benefit had been derived, he considered it as the curative means; in several other cases, it was usefully employed as an auxiliary."

Mr Foaher, after an emetic and purgative, gave antimonial medicines, giving camphor, ammonia, bark, and wine in the last stages. He practised bleeding in some cases where visceral inflammation called for it; he did not use the cold affusion, though some of his patients were sponged with vinegar and water.

Mr Palmer did not use the cold affusion in the hospital of the Lancashire Militia; and Mr Fosbrooke reports, "that though he tried it in the Durham hospital, that it succeeded in no case;" nor was Dr Hamilton's plan of treatment with purgatives more successful in the hands of this gentleman. Mr Fosbrooke, with success, gave his patients a combination of calomel with antimonial powder, in repeated doses. It will be recollected, that all the cases in the Durham hospital had a mixture of pneumonia; and I may here mention, that my friend, Dr Alley of Cork, has met with the greatest success by using mercurial frictions, in the disease which some have denominated pneumonia typhodes. Nearly two years ago, when this disease and an epidemic catarrh were very prevalent among the troops, I witnessed the great success of some gentlemen who used calomel, or calomel and antimony, so as to affect the gums. I was a few years back led to this practice, by a paper sent me by my venerable and much respected friend, Dr Wright of Edinburgh. Dr Kiels used cold affusion in the hospital of the German Artillery, and no fatal case occurred in this corps.

Mr Kent found the cold affusion "useful in several of the cases which appeared in the Oxford Militia. In some of them, it cut short the disease all at once; in others, where it did not succeed immediately, it kept the disease under." Dr Hamilton's plan did not succeed with Mr Kent's patients; he used venesection in several cases, "and with the most marked benefit."

Dr Willman writes me, that at the Woolwich Hospital, sponging with cold water was used beneficially in some cases, and that he had with the greatest advantage used mercurial frictions, calomel, and calomel with antimonial powder.

In the hospital for the prisoners of war here, Mr Burnett says, "I have had patients sent to me on the 8th or 10th day of the disease, that had been taking bark and camphor, under the idea that the disease was typhus, with high delirium, foul tongue, strong full pulse, and passing their stools and urine involuntarily. I have ordered them a bleeding of twenty ounces, blistered the head, and given a cathartic; and on the following day have found my patient calm, in one case without pyrexia, and, by persevering in this plan, they ultimately recovered. Those who were not bled in the early stage of the disease were frequently subject to cynanche parotidea, which was always a favourable, though a very painful symptom. I have found it indispensably necessary to attend to the state of the bowels during their convalescence, and their diets required equal attention, as constipation on the one hand, and a full meal of animal food on the other, has, even after five or six days of convalescence, induced a return of pyrexia. You will readily recollect our worthy friend Clarke's case, and how fortunately it terminated: you know we were not sparing of the lancet, which I can have no doubt saved his life."

I subjoin a fourth table to shew, that, in the summer quarter, we got rid of the Spanish fever, and to shew an extraordinary degree of health among the troops. In order to form a comparative estimate, the state of health and mortality among the troops in the two former years, for the same season, is given;—

In the Summer Quarter of the Year 1807,

The proportion of sickness to the number of troops was 1 in 8.
———————— mortality to the number of sick 1 in 57.

In the Summer Quarter of the year 1808,

The proportion of sickness to the numbers was 1 in 4¾
———————— mortality 1 in 36

In the Summer Quarter of the year 1809,

The proportion of sickness to the numbers is as 1 in 11
———————— mortality 1 in 10

It may be proper to add, that in the sick list of soldiers is included every trifling ailment which prevents them from attending on the parade.

Dr Clarke's *Case.*

First symptoms, lassitude, great prostration of strength, loss of appetite, vertigo, dimness of sight, headach very severe, with strong pulsation of the temporal artery, thirst, and every other symptom of pyrexia; bowels, formerly regular, now constipated to a degree, and remarkably torpid. After taking repeated strong laxative and cathartic medicines, without the least effect, at last, by a large dose of jalap and calomel, two or three evacuations were procured, with considerable relief. In a few hours, all complaints increased, and, at my own earnest request, I was bled in the arm; but before sixteen ounces were obtained, syncope was induced. I continued much in the same state; pain in the head, and want of sleep, with extreme anxiety, my chief complaint. Was bled to sixteen ounces this evening, independent of the bleeding on board of ship, and was kept in a constant state of nausea by vin. antin. in frequent doses; this invariably eased my headach, but vomiting was once occasioned by it, which exertion brought on such action, that the pain became excruciating, (but very slight, if any, intolerance of light); headach continuing very severe, notwithstanding the hair being removed, vinegar and water constantly applied, and a variety of internal medicines; a dose of camphor was taken one night, which brought on great delirium, and much increased pyrexia. At the suggestion and strong entreaty of my good friend and excellent practitioner, Mr Burnett, I was freely blooded, with almost instantaneous relief. The bleeding was repeated as often as the headach returned, and each time with the same good effect. In all, I was nine times bled, of which three were on the 11th or 12th day from the first attack. I lost about 127 ounces of blood. With the exception of the delirium brought on by the camphor, I was quite collected during the whole period, except when I thought I felt disposed to sleep. I then had much watching, and frequent incoherent ideas, but very seldom gave way to them, I mean by making unconnected remarks to the attendants. No low or typhoid symptom appeared throughout the whole course of the disease. In the early stage of convalescence, I was allowed nothing stronger than milk, tea, weak chicken-broth, and the like; nor did I take any thing stronger during the whole length of the disease. For nineteen nights and days, I cannot say I was ever sensible of being asleep, nor could any of the attendants ever find me so. Towards the latter end, or from the 12th to the 19th day, want of sleep was the only complaint; and, for several weeks after this period, I never slept above an hour or so at a time. Vertigo continued on the least exertion for some months.

(Signed) J. CLARKE, M. D.

Portsmouth, 20th August 1809.

IV.

Lues Bovina Intertropica, and the consequences thereof; with Remarks. By C. CHISHOLM, M.D. F.R.S. &c. &c.

> "Regeram enim ego magnum Hippocratem, cui nullius rei scientia vilis habita est, non puduisse de Boum morbis verba facere."
>
> RAMAZZINI.

I BELIEVE the lues or pestis bovina is a very rare disease within the tropics;—and, indeed, before the middle of the seventeenth century, it does not appear to have frequently occurred, even in Europe, although since then, there are many records of its devastation on the Continent, and in Great Britain. In the year 1783, in the island of Grenada in the West Indies, a very singular coincidence took place. Late in that year, the cynanche maligna appeared in several parts of the island, for the first time observed, I believe, by the oldest inhabitant, in that or any other of the West India islands. The symptoms of this disease were most violent; its rapidity to a fatal termination most alarming. But the circumstance which gave greatest singularity to this disease, was its concomitancy with a contagious distemper, of a very extraordinary nature, (within the tropics), epidemic among the cattle and mules in the same parts of the island, wherein the cynanche maligna appeared. Both were new and unknown, and both were concomitant; insomuch, as to render it difficult to perceive

No. I.—STATE of the Admissions and Deaths in the T

Regiments.	Stations.	Periods. From 1808,	Periods. To 1809,	Febris Contin.	— Intermitt.	Ophthalmia.	Cynanche.	Pneumonia.	Phthisis.
Royal Artillery -	Portsmouth,	Nov. 6.	Feb. 11.			2		3	
German ditto, -	Portchester,			2		1		5	
1st L. Drag. G. Legion,	Weymonth.			6	1	2	1	1	
2d ditto, ditto,				5			7		
36th Foot, 2d Batt.	Worcester,				3				
77th,————	Winchester,			1	8	3	1		
8th Royal Vet. Batt.	F. Cumberland,					5	1	3	
Durham Militia,	Portsmouth,					1	6		
R. West Middlesex,				3		3	1	3	1
Worcester, -	Portsea,			2				3	
Fifeshire, -	Hilsea, -			1		5	1	1	
West Essex, -	Haslar, -			20	4			3	
3d Lancashire, -	Gosport, -				1	6	8	4	1
Oxford, -				2		3	3	15	
Carmarthen, -	Bristol, - -			2		2		13	
Monmouth & Brecon,				2	1	1	1	2	3
1st Somerset, -				11	10				
2d ditto, -	Weymouth,			4		1	3	4	
			Total	61	28	35	33	60	5

No III.—STATE of the Admissions and De

Regiments.	Stations.	Periods.		Febris contin.	Intermit.	Ophthalmia.	arks.
		From 1809	To 1809,				
Royal Artillery, -	Portsmouth,	Feb. 12,	May 6,	12	7		
German ditto, -	Portchester,			1			
2d Lt. Dr. Ger. Legn.	Weymouth,		Feb. 25,				umati
36th Foot, 2d Batt.,	Worcester, -		May 6,	1	2		ontusi
77th, - -	Winchester,			19	3		us, 1 C
8th Veterans, -	F. Cumberland,			12	6		
Durham Militia, -	Portsmouth,			21	2		Apopl
West Middlesex, -	———			10	1		
Worcester, -	Portsea, -			12			
Fifeshire, -	Hilsea, -			20	14		
3d Lancashire, -	Haslar, -			14	24		
West Essex, -	———			35	6		
Oxford, - -	Gosport, -			46	16		1 Par
Carmarthen,- -	Bristol, -			8			
Monmouth & Brecon,	———			5			k.
1st Somerset,- -	———			13	22		
2d ditto, -	Weymouth,			13	1		
			Total,	242	104		

No. IV.—STATE of the Admissions and

Regiments.	Stations.	Periods.		
		From 1809	To 1809,	
Royal Artillery, -	Portsmouth,	May 7,	July 29,	
German ditto, -	Portchester,			
36th Foot, 2d Batt. -	Worcester,			
77th,——— -	Winchester,		July 1,	
8th Royal Vet. Batt.	F. Cumberland,		——29,	
Fifeshire Militia, -	———			
Durham, - -	Portsmouth,			
R. W. Middlesex, -	———		June 3,	
Northampton, -	———	June 25,	July 29,	
Worcester, - -	Portsea, -	May 7,		
Renfrew, - -		June 11,		
Ross-shire, - -	Hilsea, -	July 2,		
3d Lancashire, -	Gosport, -	May 7,		
Oxford, - -				
West Essex, - -	Haslar, -		June 3,	
Leicester, - -		June 11,	July 29	
Monmouth & Brecon,	Bristol, -	May 7,		
Carmarthen, - -			July 1,	
North Gloucester, -			——29	
1st Lancashire, -		July 16,		
1st Somerset, -		May 7,	July 1,	Hepatitis,
2d ditto, - -	Weymouth,		——29	
			Total	

perceive whether they proceeded from a cause common to both, or whether the cynanche was an effect, on the human race, of an imported contagion, which seemed peculiarly, in the first instance, to affect the horned cattle and mules. These animals whilst feeding, and apparently in perfect health, in the pastures, suddenly fell down dead. The malignity of the disease had so rapid a progress, that seldom could other symptoms, or rather any symptoms be observed:—sometimes, a few minutes before death, the animals were languid, lay down and neglected their food. Sometimes a swelling of the glands of the throat formed a large tumor, which might be perceived for some days before death; but though this swelling sometimes suppurated, and though the matter was discharged, it never proved critical. On dissection, the whole course of the trachea or œsophagus, the stomach, and greater part of the intestines, were found in an inflamed or a gangrenous state. Various modes of cure were adopted, but, except in a few cases, always without effect. In these few excepted cases, the Peruvian bark, given in very large quantity, seemed to complete a cure; but the use of this medicine was too expensive to render it extensive, and the instances I have mentioned, I believe, were experimental. Methods of prevention were also tried—of these, I was assured, that tar rubbed on the forehead, to the nose, and under the throat, had frequently the desired effect. At this period, 1783, Grenada had intercourse only with some of the other islands in possession of the French, within the tropics, and with Ostend in Austrian Flanders chiefly, in Europe—there was no intercourse with North America, and none whatever with the Spanish colonies; and, upon the whole, well-grounded reasons exist for believing, that the fomes of the bovine pestilence was imported from Ostend, by the Imperial neutral ships which exclusively carried on the only trade the circumstances of the existing war then permitted.

On those plantations where care was taken to burn the carcases of the diseased cattle, no further consequences resulted. But these unhappily were few. On those where this precaution was not used, and, indeed, it is surprising that it should be used in any, seeing that the disease was new, and its effects unknown, the flesh of the cattle that died being dug up, and ate by the negroes, proved most dreadfully septic, producing a pestilential carbuncle, attended by a malignant fever. There were not wanting instances of the iniquitous practice of offering the flesh of diseased cattle for sale, and on these occasions, such was the highly septic nature of this poison, that even touching the flesh, in such manner as that part of the sanies adhered to the finger, produced the same fatal consequence. A remarkable instance of this occurred in a respectable married lady of the island. In the finger to which the virus was thus inadvertently applied, a pestilential carbuncle appeared, and her life was preserved by the amputation of the diseased member.

This disease, thus originating, was distinguished by the name of malignant carbuncle; and among the French part of the population by that of *Charbon*. The series of its symptoms was thus: Without any previous symptom of disease, the patient complained of a tumor, often in no certain part of the body, but generally on one cheek, resembling the inflammatory vesication which succeeds inoculation for the small-pox. Soon after a fever came on, but by no means violent, and continued during the twenty-four or thirty-six succeeding hours, when it gradually subsided, and left the patient apparently without a single symptom of disease, except the tumor. This tumor was nearly circular, had a depression in the middle, and the skin immediately around it was œdematous. At this period, however, in the middle of the tumor, a small whitish carbuncle arose, and breaking, discharged considerable quantities of a yellowish ichor. But this seeming freedom from disease was, in about twenty-four hours after the eruption of the carbuncle, succeeded by vertigo, a most excruciating pain stretching across the abdomen, accompanied by anorexia, thirst, and palpitation of the heart; the pulse sunk below the natural state; cold sweats broke out; and in short, the patient was carried off in twelve hours after the seizure of these latter symptoms. It is obvious, that the danger of the disease lay chiefly in its obscurity and novelty—for among the negroes more especially, being much subject to sores, sometimes attended with slight symptomatic fever, and which were easily cured, no apprehension of fatal consequences, for some time, was excited; and when the second stage or state came on, the administration of the most powerful antiseptics was unavailing. More than half of those thus diseased, therefore, perished.

On dissection, the stomach, and all the intestinal canal appeared inflamed, and generally covered with large livid blotches; and in the valvulæ conniventes was a considerable quantity of a yellow gelatinous matter. Large quantities of the same matter were found among the muscles of the abdomen, and between them and the peritonæum. The brain and all the other viscera were sound.

The principal, and indeed only beneficial remedies, were bark and wine, exhibited before the commencement of the second state.

It will be considered a very extraordinary fact, that the cynanche maligna disappeared a short time after the lues bovina. My friend, Dr John Stewart, who had the best opportunities of seeing both diseases, for it was chiefly within his practice they occurred, writes to me: "I went to Grenada early in 1774, but I neither witnessed nor heard of any instance of the cynanche maligna in that island, until the end of 1783, nor did it appear after 1786, until I finally left the island in 1797."

The lues bovina, I have said, is a very rare disease within the tropics. I have been assured by a gentleman long resident in Jamaica, and owner of considerable cattle-pens, that nothing of the kind has, to his knowledge, occurred there; and it is certain neither Brown nor Ling have noticed it in their valuable works: It has appeared in Barbadoes only, as far as I have been able to learn; and there it seems to have assumed the same alarming aspect, and to have produced the same devastation among the horned cattle; and, in many instances, to have given rise to similar consequences among the human race, we have found it marked by in Grenada. The learned historiographer of Barbadoes, the Reverend Mr Hughes, gives no information relative to the origin of this distemper in that island, but he thus describes it: "Among the distempers which infect the horned cattle, there is one of a very contagious and pestilential kind; for a beast shall seemingly, by his feeding heartily, and in appearance be otherwise well, yet in a few hours, without any symptom of a previous disease, drop down and die. These, when dead, are by the most judicious planters immediately buried, and often there is a watchman appointed, to prevent the new bought negroes, and others of the poorer sort, from digging up the carcasses and feeding upon them; for when this happens, it generally costs them their lives, especially if they eat the liver, or any part of the entrails. In this case the distemper breaks out in the shape of plague-boils, near the arm-pits or temples." He adds, "I have known one very extraordinary instance of its virulency. A negroe woman, carrying upon her head, in a wicker-basket, a piece of this flesh, that had been newly cut off from a dead distempered carcase, a few bloody sanious drops fell through the basket upon her left breast. In a few hours she was swelled all over, and was not able to move a limb; and in about two days there appeared mortifying ulcers in every part where the drops fell; and though speedy methods were used, by fomentations, and other means, to prevent its further progress, yet neither these, nor taking off the infected part, could put a stop to it; at last the whole breast and adjacent affected parts were taken off close to the bones. In this deplorable condition the surgeon gave her over." He then says, she was cured by "a notable woman in the knowledge of simples," by an application composed of "smooth elder leaves, soldier bush, dialthœa and christmas bush, boiled, and brought into consistency with bees wax and hogs-lard." Fol. ed. 1760, p. 68. A distemper equally fatal prevailed in some districts of Barbadoes in the year 1795. In the month of April of 1796, I made a tour of the island, and at the plantation Apeshill, near Hole's town, had the following very curious information from our host, Mr Cummins, a very intelligent and respectable planter. The malady was fatally epidemic on this plantation, and carried off more than 50 head of cattle; and the number of negroes who died in consequence of eating the flesh of the diseased animals, was also considerable. The description which Mr Cummins gave of it, ascertained its identity with the Grenada distemper of 1783–4; but he could assign no cause for it. A very singular instance of the excessive virulence and effusion of this poison occurred in his own family. One of his children, a girl of three years old, during the prevalence of the epidemic, took for her breakfast one morning so large a portion of milk, as to leave a very scanty allowance to the other children. This milk was taken from a cow which unfortunately then laboured under the distemper. At the end of four days, the child was seized with all the usual symptoms of the plague, sore, or malignant carbuncle, which had been observed to take place in the negroes who ate of the flesh of the diseased cattle. She recovered with the utmost difficulty; but the deep mark left by the carbuncle on her arm still remained.

Having thus laid before the reader all I know of this extraordinary disease within the tropics, I shall proceed to inquire how far it corresponds with the anthrax and species of plague considered as peculiar to quadrupeds, more especially horned cattle, of nosologists and others, who have given much of their attention to the subject. Sauvages gives a character of anthrax so exactly the counterpart of the Grenada carbuncle, or charbon, as to remove all doubt of their identity. Est tumor carnibus immersus ut plurimum, in cujus apice est vesicula grisea, subtus sphacelosa, in ambitu dolor et rubor quandoque leves; excoriatus vel suppurascens, serpit in viciniam, et colorem intense rubrum exhibet.—Accidit potissimum pauperibus sordidis, qui carnes animalium, ut vervecum, anthrace defunctorum edunt, aut qui eorum lanas tractant, adipem fundunt ad candelas parandas," &c. Nosolog. Method. tom. i. p. 147, Amsterdam ed. 1768. But the Grenada original and consequential disease partook of Sauvage's four species of plague, which more peculiarly are confined to quadrupeds, and more immediately to horned cattle; or have their origin among men from them, not by contagion, but by the morbid flesh of the latter becoming the food of the former; or by the application of the poison to the surface of the skin, as in Mr Hughes's negroe woman, and the Grenada lady. Thus the pestis Bovilla (*dysenteria pecorum*) seems to have been the Grenada murrain modified by climate; the European passing through all its stages, the tropical hurried into the last or gangrenous state, without the intermediate gradation of change. Thus the pestis carbunculosa approaches very near to the charbon, or malignant carbuncle, which the former was the indirect cause of;—the description is almost precisely similar, the cause is entirely so. Thus the pestis glossanthrax seems to have been a carbuncular affection towards the root of the tongue chiefly, which corroded that organ in a few days, and finally destroyed the animal. Cattle, horses, mules, and even men, were the subjects of this plague, in Languedoc, in 1732; and the morbid appearance of the trachea, œsophagus, and stomach of the cattle inspected after death at Grenada, marks the affinity of the two diseases. Thus too the pestis anticardia, with the exception of its being sporadic, seems to resemble the Grenada murrain, in the affection more especially from which the anticardia derives its name, (in antica vero pectoris parte excrescit tumor phlegmonodeus pugni magnitudine qui anticardia dicitur.)

If we extend our inquiry further, it would seem, I think, by comparing the character of the Grenada murrain and charbon with the descriptions left us by writers on this subject, that it bears, the former more especially I mean, not a little affinity to the murrain, or "distemper among the horned cattle," which has prevailed in various parts of Europe, during the last two centuries. One very important, some indeed are inclined to consider it the most important, distinction, is the eruption of pustules at a certain period of the disease, generally the fifth or sixth day, precisely resembling those of the small-pox. So marked has this symptom been, so decidedly has it defined the peculiar nature of the disease, that, joined to another circumstance, which experience and observation have detected, viz. that the disease attacks only once during the animal's life, it has led to the establishment of a mode of prevention, answering fully the expectation of its inventor, the late Dr Layard. Sauvage, however, seems to have had less faith in this symptom, and if his observation has been correct, certainly on good grounds,—paucissimi sanabantur obortis ad nares et caput *pustulis crustaceis*. One of the best accounts we have of the murrain in Europe, is given by Ramazzini, in his dissertation on the contagious epidemic, which appeared in the northern districts of Italy, in the year 1711. The expressions made use of by this writer, induce us to consider the epidemic he describes as most singularly rapid and violent in its progress:—"Quam inopinate, quam violenter bubulum genus dira contagio pervaserit flammæ ad instar quæ ope nulla humana consopiri, ne dum restingui potuerit,—tam magnam ac horrendam boum stragem edidit, ut tum rura, tum civitatem mærore, ac metu complerit." Its symptoms were nearly those attributed to the pestis bovilla by Sauvage, only the eruption seems to have been of a less equivocal character; pustulæ quinta vel sexta die per totum corpus erumpentes, ac tubercula variolarum speciem referentia. This, however, did not diminish the fatal tendency of the disease,—communis tandem omnium eodem modo circa quintam et septimam interitus, cum Boves paucissimi evadunt, iique forte potiùs quadam, quam remediorum dynami. The dissections made exhibited some very singular morbid changes.—In omaso, corpus quoddam durum, et compactum, ventriculi parietibus fortiter adhærens, magnæ molis et intolerandæ graveolentiæ; in aliis vero partibus repertæ sunt hydatides, in cerebro, pulmonibus, sicuti etiam ingentes vesicæ solo flatu plenæ, quæ dissectæ diram mephitim exhalarent, ulcera in radice linguæ, et ad illius latera vesiculæ sero plenæ Ramazzini had no doubt the seat of the disease, and its proximate cause, were lodged in the very extraordinary substance found in the stomach. It is, indeed, probable, that the morbid changes were more minutely observed by Ramazzini than in Grenada; but there is certainly a considerable difference, and more especially in this substance, which could not have escaped detection, had it existed,—durum compactum et instar calcis. This, however, and the variolous eruption, and the discharge from the glands of the nose, and from the fundament, may have been the product of a more protracted action of the morbid cause. Allowing, therefore, that the virulence of this, and the violence of its action, were in the ratio of the temperature of the respective climates in which the diseases occurred, and that, consequently, a termination of life took place, in the torrid zone, before the course of the symptoms had been effected, and the various features of the disease, in its less tumultuous form, evolved, we shall be inclined to conclude, that the contagious Epidemia Boum, of both climates, was precisely the same disease. In this persuasion I am farther strengthened, by observing the anomalous and tumultuous fever, which sometimes precedes the natural eruption of the small-pox, within the tropics*,

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* Thus, too, Sauvage remarks, quippe dantur pestes abortivæ in quibus bubones non erumpunt et omnes ægri intereunt, ut in variola suppressa cujus pustulæ

This dreadful pestilence was introduced into the Vicentine territories from Dalmatia,—a single diseased bullock gave origin to the calamity, which soon after spread with such destructive violence over the Venetian and Paduan territories, because no precautionary means were adopted to prevent it *. A similar event introduced the disease into Grenada from Ostend in Austrian Flanders.

There can be little doubt, that the contagious distemper among the horned cattle, in the South and North of France, of Holland, of Denmark, Sweden, and of Great Britain, was the same disease; the Pestis Bovilla of Sauvage, the Contagiosa Epidemia of Ramazzini, the Maladie Epizootique of d'Azyr, and the disease I have described of the cattle of Grenada. And when we meet with writers disposed to contravert this opinion, we may reconcile the two opinions, by supposing the disease more or less rapid in its course, and thereby more or less completely developing its characteristic symptoms. Much, too, will result from difference of climate, and from local circumstances. The Grenada distemper appeared chiefly during the winter months, and on the windward side of the island, where at that season northwinds prevail, and produce a great degree of relative cold in the atmosphere, and subject the inhabitants to such frequent checks of perspiration, by their piercing and corrugating influence, as often to occasion inflammatory diseases of a most destructive nature; a very remarkable and fatal instance of which, I communicated to the public in the Medical Commentaries of Edinburgh, in the year 1786 I believe. With respect to the symptom which seems more especially to distinguish the Pestis Bovilla, Dr Layard was the first to point it out, and to avail himself of it in the mode of prevention. This gentleman in his letter to Lord Macclesfield, then President of the Royal Society, says, " An entire conviction of the analogy between this disease and the

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tulæ foras trudi non possunt, et materies deleteria viscera nobiliora, ut cerebrum, pulmones, stomachum infarcit, inflammat, gangræna afficit, unde mors. Nosol. Meth. tom. 2. 655. See also a curious extract from the " Bulletin de la Societé Philomatique," in the New-York Medical Repository, vol. 1. p. 258. A useful practical inference arises from this in the diseases of cattle; quiet this tumult, by bleeding more especially, and you will reduce the distemper to regularity, and deprive it of much of its danger.

* How applicable is the observation made by Ramazzini on this occasion, to the commencement of the pestilence in all countries; but more particularly to that which has proved so destructive in the West India Islands, the united states of America, and Spain, during the last fifteen years. " Casus iste totam viciniam perterrifecit, sed nulla juvat diligentia ut domus suas, et casas a flammâ nimis vicina præservarent." Ramazzini opera, 4to. 1718. 456.

the small-pox, would not permit me to omit mentioning the great advantages which must arise from inoculation, and therefore I recommend its use; nor do I find any reason to alter my opinion, after having carefully read over what has been published, and made the strictest inquiry I was able, in several parts of Great Britain." (Philos. Trans. v. 50.)

There is reason to believe, that this fatal distemper is not an endemic of Europe; but in what country it originated I am ignorant. Perhaps, like the plague, no country will acknowledge it for its legitimate offspring. In Grenada it seems pretty certain to have been brought from Ostend, where, and in Picardy, Vicq d'Azyr informs us, it much prevailed in 1779-80. In Italy, Dalmatia was accused of giving birth to it. It is probable France derived it from Italy, Holland and Germany from France, and Sweden and Denmark from Germany. To all these countries it can be traced from the year 1711, when Ramazzini wrote on it. It was first known in Great Britain, nearly about the middle of the last century, when it is said to have been brought from Holland *.

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* The description which M. Vicq d'Azyr has given of this disease (Maladie Epizootique) in his "Precis historique," concerning that which prevailed in Picardy and the neighbouring countries in 1779 and 1780, (See Mem. de la Soc. Roy. de Med. tom. 3. 343.) precisely corresponds with Ramazzini in the great and distinguishing features, and even in that very remarkable one, its contagious nature; and yet he assigns its origin to marsh miasmata. His epizootic principally appeared in the low meadows and marshes of Roussan Mainteni, after an inundation, which consequentially greatly augmented the volume and the virulence of the exhalations. "Cette inondation et les vapeurs qui s'en élèvent agissent sur les hommes et sur les bestiaux; sur les premiers qui sont très sujets aux fievres intermittents; sur les seconds, qui sont attaqués de *charbon* dans certains temps de l'année et quelquefois d'autres epizootics très graves." And yet in the next page he says, "par tout les progres du mal ont été relatifs aux communications, et aux imprudences sans nombre que l'on a commises. Les marais de Roussan, qui est le plus mal sain, a été le foyer de l'Epizootic, et la contagion, qui a eu son principe dans un lieu bas et humide, s'est propagée par communication," &c. I imagine physicians who have been equally conversant with situations subject to the influence of marshy exhalations, and those in which infection is the morbid cause, will feel little inclined to perceive consistency or accuracy of observation in this singular jumble of causation. He differs from Ramazzini, in the morbid changes produced in the bodies of the animals which perished. Thus, the lungs were so much affected, as to induce the writer to call the disease a malignant peripneumony; the stomach and the small intestines were particularly affected with inflammation. He concludes the pathological part of his paper thus: "On peut le regarder comme une fievre putride contagieuse qui exerçoit en meme temps ses ravages sur les visceres du ventre et sur ceux de la poitrine." p. 351. The Murrain of Tubingen, in 1745, seems to have been produced by infected cattle from Dalmatia.

It is highly probable, therefore, that the disease is the same in Europe, and within the tropics. There is one remarkable difference

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Dalmatia, or from Hungary. Dissertat. ad morb. histor. collegit. Alb. V. Haller, tom. 7. p. 841. Mauchart de lue vaccar. Tubingense. On another occasion, it was introduced from Bavaria. Goëlicke says, the lues contagiosa bovillum of 1730, was imported from Hungary into the north of Germany; ibid. tom. 6. 727. The lungs, fauces, and root of the tongue were more particularly inflamed, but the whole of the viscera were more or less so, and the quantity of bile in the gall-bladder was so great, in many instances, that the disease therefrom obtained its name," die Uebergalle—the liver often full of abscess. ib. tom. 7. 849, 50. The same state of the mouth and fauces was observed by Lancisi in the campagnia of Rome in 1713; and he says, that this pestilence which so generally prevailed throughout all Italy, was brought from Hungary, ab unico bove, navi ex Hungaria advecto. sect. 22. A very curious circumstance is mentioned by Goëlicke, viz. that one bullock being contaminated by the infection, instantly communicated it to those that were healthy; vel homines ipsi quorum vestimentis miasma pestilentiale inhæret, ex uno loco in alium illud transferunt; sect. 24. If this is a fact, and I believe it has been frequently verified in this country, how easily might the Grenada infection be transported from Ostend. The same author assures us, that even the saliva of infected cattle adhering to the grass, will infect healthy cattle which feed on it. From these facts he infers, (sect. 30.) unde ex orientalibus ad occidentales aliasque mundi plagas haud infrequenter transportari, neminem, nisi rerum omnium olim gestarum memoria destitutum, ignorare posse existimamus. See also Schroeckius on this subject. Dr Wineler describes a murrain of precisely the same nature which prevailed on the borders of Italy, and spread from thence into Switzerland, Poland, and all over Germany, and was very destructive. In this instance, the most singular circumstance is the attributed cause; for the writer says, the contagion seemed to be propagated in the form of a blue mist, that fell upon those pastures where the cattle grazed, insomuch that whole herds have returned home sick. Many died in twenty-four hours, exhibiting no other symptom besides dullness and loathing of food. The remedy employed as a preventive and cure, was a mixture of equal parts of soot, gun-powder, brimstone, and salt, and as much water as was necessary to wash it down. The herdsmen, in this instance, were also infected, and died. Philos. Transact. Lowthorp's Abridg. v. 2. 869. A very interesting account of a murrain in Essex, Middlesex, and Surrey, is given by Mr T. Bales, in the 5th vol. of this abridgement. The general symptoms were nearly the same, but the chalky concretions, similar to that mentioned by Ramazzini, were very numerous, and sometimes large. No cause is assigned, and it did not extend to mankind. Killing the cattle was the principal means employed to prevent the contagion; and afterwards cleaning, fumigating, and white-washing the stalls. Mr Hoffman, a Danish gentleman, says, this infection was first brought into Denmark by means of raw hides of cattle, dead of this distemper, imported from Flanders; and that at that time, 1745, 50,000 head had perished by it. Mr Theobalds assures us, it was brought into Essex in 1745, from Holland. That the infection, or virus is of a most penetrating nature, seems evident, from the very curious fact related by Mr Collinson, of a farmer, who, from good-naturedly assisting a neighbour in drenching his distempered cattle, conveyed the infecfection, by means of his clothes, to his own, hitherto healthy. The instant he entered the field in which his own healthy cattle were feeding, the cattle " all left ference however. In the Grenada and Barbadoes disease, the flesh of the cattle which perished, on being made the food of the human race, instantly communicated a most fatal disease to them. Nay,

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left off their grazing, ran to the farther end of the field, snorting, and shewing the greatest uneasiness at their master's approach." The very next day, many of them fell sick, and died in a few days. In this remarkable instance it does not appear that the human kind sustained any personal injury from the infection. See Martyn's Abridgement of Philosoph. Transact. v. 11. 922. It is remarkable, that Ramazzini, Goëlicke, Sauvage, d'Azyr, and Dr Layard, are the only writers on this distemper I have met with, who mention the eruption of pustules somewhat similar to the small-pox. The former, Goëlicke, says, in aliquibus pustulas sub cute effloruisse, adeo ut nonnulli crediderent variolis boves esse infectos. Haller's Dissertationes, tom. 5. 722. D'Azyr take no notice of this symptom in his "Precis historique," farther than that "quelques uns ont eu le cou couvert de boutons, et cette terminaison etoit ordinairement heureuse;" but in a letter to Dr Layard, he says, "il me paroit comme a vous que c'est toujours la meme maladie qui a regnée depuis 1711, et qu'elle a de grands rapports avec l'eruption varioleuse." Dr Layard's opinion of the nature of this disease, suggested the propriety of inoculation; it is that "it is an eruptive fever of the variolous kind; and, that notwithstanding the exanthemata or pustules may have been frequently overlooked, yet none ever recovered without more or less eruption, or critical abscesses; like unto the small-pox, it is communicated by contact, by the air conveying the effluvia, which also lodge in many substances, and are thereby conveyed to distant places. Unlike other pestilential, putrid, or malignant fevers, it bears all the characteristic symptoms, progress, crisis, and event of the small-pox, and whether received by contagion or inoculation, has the same appearances, stages, and determination, except more favourably by inoculation, and with this distinctive and decisive property, that a beast having had the sickness, naturally, or artificially, never has it a second time." Philosoph. Trans. vol. 70. 536. 545. The action of heat and cold on this disease is very remarkable. Ramazzini says, quantum sævierit pestis Octobris mense, austro et euronoto flatibus, satis valgatum est. The same observation occurred to the Marquis Courtivron, as we are told by Dr Layard, and gave rise to a similar discrepancy in the distemper of 1745 and 1746, and that of 1747 and 1748, in the latter years the excessive cold weather checking the variolous eruption, and hurrying the animals out of life. Philos. Trans. vol. 50. 531. A degree of heat, such as that of the torrid zone, it is probable produces the same effect. Thus, then, we see that all animals, whether human or brute, are subject to the same laws of contagion; but a contagion peculiar to them respectively, and not communicable from one class to the other. How has it happened, that Italy, more especially, has so often suffered by this desolating scourge? We find murrain often the subject of the Roman poets and historians' pen, a proof of its frequent occurrence before the Augustan age. In latter times, we have the authority of eminent physicians, for believing it to have become more general, and at least equally destructive. I confess myself, and indeed it will be readily perceived by the reader, very little, and very imperfectly acquainted with the subject; but the little I have seen of it within the tropics, and the information I have acquired in the course of my reading, are amply sufficient to satify me, that an inquiry into the cause of its remarkable prevalence in Italy, Dalmatia, &c. before it became epidemic in more northerly parts of Europe, is by no means unworthy the physiologist, whose

Nay, we are assured, that a few bloody sanious drops from the flesh, falling upon the skin of a healthy person, gave rise to a train of symptoms, which baffled medical skill: and that, even the milk drawn from a diseased cow, and received into the stomach, had the same effect as the flesh. Now, we perceive little mention of such effect being produced in Europe. Sauvage, indeed, attributes the pestis carbunculosa to this cause, but his authority does not appear very clear. (Nosol. Meth. tom. i. 417.) I have reason to believe, that the general conclusion he hence draws, relative to the greater frequency of the carbuncle among butchers, curriers, tallow-chandlers, and herdsmen, is founded more on theory than on fact; and it is at all events evident, even on the supposition that this is a frequent occurrence, that the disease communicated or generated by "carnes animalium anthrace defunctorum," is extremely slight in Europe, for Sauvage himself tells us, that physicians are seldom called upon to cure it, (p. 147.) Lancisi observed at Rome, that those men who ate of infected flesh, were affected with diarrhœa and fever. Schroeckius mentions, too, an instance of two countrymen, who had slaughtered a bullock, which, on inspection, being found diseased, was buried, and were affected with carbuncle, from having thus touched the flesh. On the other hand, Goëlicke expressly says, that no injury was sustained by men from the influence of the terrible pestilence he describes of 1730. Variis hominibus, qui in alendis et curandis ægrotantibus vaccis, lue demortuis, transvehendis, secandis, excoriandis, sepeliendis, occupati fuerunt, et spissas pessime olentium effluviorum nebulas inspiraverant, omnes ac singuli sani manserunt salvique. Unus e veterinariis cum vaccæ constipatæ alvum intrusa manu aperuisset, effluvius teterrimis afflatus, bis ea vespere in lipothymiam incidit, hausto autem alexeterio perfecte statim convaluit. (Haller's Dissertationes, tom. v. 846.) Many ate of the flesh of the infected cattle, but he says, hactenus utrinque, quantum constat, sine damno. (Ibid.) And, upon the whole, he considers himself authorized to deduce this proposition from his observations, viz. Morbus brutorum epidemicus et contagiosus ut plurimum in sua animalis specie manet, nec ad aliam facile transit. (Ibid.) Ramazzini nowhere mentions the carbuncular disease being the consequence of eating the flesh of murrained cattle. It is true, indeed, he does not say, that such flesh was used as food, during the

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whose learning, diligence, and local knowledge of those countries, are competent to direct and guide his research; for it may lead to hints, perhaps to discoveries, highly important to the welfare of mankind.

the epidemic he describes; but we are not to suppose, that the butchers, herdsmen, and lower peasantry of Italy, were in his time more scrupulous than those of France or Germany, in Sauvages or Goëlicke's time. We should expect, too, that a circumstance of this nature, would not be omitted in his account of the Diseases of Tradesmen, a work calculated for popular use, as well as the information of physicians; yet nowhere is a fact of this nature recorded by him, although he treats fully of diseases incident to those very tradesmen Sauvage says the carbuncular disease is peculiar too. Vicq d'Azyr says nothing of this communication of disease. From the silence of Dr Layard, on this part of the subject, who took a most comprehensive view of it, in all its bearings and relations, the inference seems fair, that the carbuncular disease among men, was not a consequence of the murrains, which have prevailed in different parts of Europe since 1711. Dr Layard's uniform object was to prevent the distemper among cattle. Had the carbuncle been a consequence of that epidemic to mankind, no doubt he would have directed his views to the prevention of that also. It would seem, therefore, that the tropical climate communicates a higher degree of malignity to the poison of murrain, than it possesses in temperate climates: or, that the peasantry of the former are more susceptible of the action of animal poisons, which however recent experience totally disproves; or, that the peasantry of Europe are more scrupulous in their choice of food: a proposition which seems also disproved by Sauvage. Liberum cuique esto judicium. Ramazz. 460*.

Ramazzini seems to disbelieve that the human kind can be infected by this pestilence, and for reasons which appear indisputable.

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* Yet an anatomist dissecting a putrid body, and accidentally scratching his finger with the knife, covered with the putrid sanies of such body, will lose his life by the fever (not contagious, however,) thereby caused: and the cook trussing putrid game, and accidentally wounded in the same manner, also becomes a victim to the poison In the Bristol newspaper (Mirror, Jan. 24, 1807), there are two instances given of the fatal consequence of this species of inoculation. One of them is thus stated: "The death of Mrs Biggs of Edmunton, was occasioned by an accident from which so lamentable a result was not to be apprehended. About a fortnight since, in adjusting a skewer used in trussing a pheasant, she perforated her thumb, and the bird being in a slight degree tainted, an inflammation ensued, which terminated in her death." The second is thus related: "Lately a respectable house-keeper of Bath, in breaking the small bones of a hare for jugging. that was highly tainted, scratched two of her fingers; the inflammation which ensued was prevented from terminating fatally, by the immediate profuse application of leeches."

putable *. He does not fail, however, with his usual impartiality, to bring before his readers several authorities for an opposite opinion, viz. that this kind of infection is not always confined to the "bovinus populus" as he calls the horned cattle, but indiscriminately attacks all quadrupeds, men, birds, and even fishes †. The fact which Ramazzini himself records, is sufficient to overthrow the testimony of Ovid, Lucretius, Livy, and Dionysius Halicarnasseus, which he refers to, without having recourse to a more obvious objection, the ample allowance which must be made for superstitious credulity and poetic fancy. He adds, that in the pestilence he describes, and of its wide diffusion, and deadly nature, we can have no doubt there was not room for suspecting any such extension of its virus, for that it was confined to the cattle, and most particularly fatal to those which were fattest, and in best condition; an observation supported and confined by Mauchart, Goëlicke, &c. Nor is it a proposition supported by well established facts, that the contagion of plague or pestilence, among men, is communicable to brute animals, no more than that of murrain among cattle to men. There seems indeed to be a well defined line of distinction between them; a happy and beneficent limit, by which providence prevents the extinction of animals, when, in its all-seeing wisdom, it appoints a murrain or a pestilence, to preserve an equal distribution of its bounties to all created beings, or to subdue the arrogance of man, when he presumptuously assigns the ultimate purpose of these bounties to himself. It is, perhaps, when the imprudence or the necessities of man urge him to receive into his system the flesh

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* Etenim si trium mensium spatio, lues ista, alia ruminantia et cornigera non attingit, quamvis inter ea magnus sit symbolismus, nec equos, sues ac alias sylvestres feras, hactenus quidquam læsit, non apparet ratio, cur homines, qui ab istis animalibus tam longe distant, debeat afficere.

† Ast illorum temporum pestilentia non solis in bobus sed in omnibus animantibus, at ipsis etiam maris piscibus, non parceret (qualis ea fuit quam Lucretius carmine descripsit) &c. Ramaz. 459. But on examining the passage in Lucretius, to which I suppose he must refer, (lib. vi. v. 1123), I can discover no mention made of fish:

Hæc igitur subito clades nova, pestilitasque,
Aut in aquas cadit, aut fruges persidit in ipsas.

Abrupt then falls the new pestiferous bane
Broad o'er the fountains, &c. GOOD.

Virgil is indeed more explicit:

Jam maris imensi prolem, et genus omne natantium
Littore in extremo, ceu naufraga corpora, fluctus
Proluit; insolitæ fugiunt in flumina phocæ. GEOR. iii. 541.

flesh of animals destroyed by a pestilential disease, he becomes a victim to the poison thus communicated. But then, he suffers by a new disease, as fatal, when it is produced, as the epidemic which destroyed the cattle, but which cannot be propagated from a diseased individual to a healthy one It ceases and determines in the individual who ate the morbid flesh. This is precisely similar to the order observed by nature in the propagation of animals. A male and female animal, of very different species, nay, of very different genera, the ass and the cow for instance *, may copulate and produce a third, partaking of the nature of both; but here propagation ceases, and were it otherwise, the beautiful and admirable arrangement of creation would be disturbed, and all things reduced to their original state of confusion. There is solid ground of belief, that this singular mode of exciting a new and fatal morbid action in living animal bodies is reciprocal, that is, that carnivorous quarupeds, for instance, during the existence of a pestilential epidemic among men, if driven by voracity or hunger, to feed on the bodies of men destroyed by the pestilence, may be destroyed themselves; not by contagion, but, as in the preceding case, by the action of a peculiar poison, evolved in their stomachs from the morbid flesh. The brute creation, however, here seems to possess a superior advantage over man: instinct, we have reason to believe, protecting the former from such fatal indulgencies. Thucydides insinuates that such was observed among carnivorous birds, and quadrupeds, during the plague which ravaged Athens: alites et quadrupedes, quotquot humanis cadaveribus vesci solent, cum multa jacerent insepulta, tamen aut ad hæc non accedebant, aut si gustassent, interibant †. Virgil takes notice of this instinctive aversion, of even beasts of prey, from flocks labouring under his dira contagio.

> Non lupus insidias explorat ovilia circûm
> Nec gregibus nocturnus obambulat. G. 3. 537.

But although he calls to his aid all the powers of his fertile imagination to depict the horror and the extension of the effect, yet he nowhere tells us that the human race became victims to the

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* "To the mule we may join the kumrah, as I think these people call a little servicable beast of burthen, begot betwixt an ass and a cow. That which I saw was single hoofed like the ass, but distinguished from it in all other respects, having a sleeker skin, and the tail and head (excepting the horns,) in the fashion of the dams." Travels, &c. into Barbary and the Levant, by Dr Shaw. Oxford, 1738, p. 239.

† ταγαρ ὄρνεα ϗ τετραποδα ὅσα ανθρωπων απτεται, πολλων αταφων γιγνομενων ἢ ὀ προσῄει, ἢ γευσαμενα διεφθειρετο. lib. 2. 4.

the pestilence*. Had such an extension of the contagion of murrain been well authenticated and believed in this most judicious poet's time, he no doubt would have availed himself of the facts, and by adopting them completed the climax. Ovid is less scrupulous:

> ——————— agunt contagia late.
> Pervenit ad miseros damno graviore colonas.
> Pestis, et in magnæ dominatur mœnibus urbis. Met. 7. 551.

He does not however neglect the remarkable feature I have mentioned.

> ——— Non illa canes, avidæve volucres,
> Non cani tetigêre lupi. Ibid. 549.

It is true, indeed, that the two best Roman historians, both too contemporaries of Virgil, Livy and Dionysius Halicarnasseus, describe a pestilence, which, by their account, seems to have been common to every species of quadruped †, and to men of all descriptions, exposed to the contagion, beginning with the former, then proceeding to the shepherds and husbandmen, and ending with the citizens of Rome. Dionysius says such a disease was never before known—ὑπο νοσȣ κακωθεντες, ὧς ὄπω προτερον, λοιμικης. It is highly probable, however, that two distinct diseases existed at two distinct periods of the years in which this pestilence is said to have been epidemic, the one peculiar to the brute animals, the other to mankind. The latter, indeed, seems to be easily accounted for, by the dreadful state of that part of Italy at that time; the whole country laid waste by the continual incursions of the Æqui, Volsci, and other enemies of Rome; the continual encroachments of the Romans themselves; the distracted and excessively crowded state of the city; the uncultivated woody and marshy surface everywhere exhaling malignant miasmata. Livy in his description of the same calamity corresponds precisely:—but he records an important circumstance omitted by Dionysius, quite sufficient for the production of a pestilential fever in the city, without recurring to the epidemic prevailing before among the cattle, for the infection which generated it; and sufficient too to justify Virgil's omission of what he knew to be unfounded in fact—pecoribus agrestibusque in urbem acceptis—ea

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* He says, indeed,

> Verum etiam invisos si quis tentârat amictos
> Ardentes papulæ, atque immundus olentia sudor
> Membra sequebatur.

† The words of Dio. Halicarnasseus are ἱππων τε φορβαδων ϗ βοων αγελαις προς πληθει —ϗ διεφθειρε ολιγȣ δειν παντα τα τετραποδα. Lib. 9. c. 66. Oxon. 1704. This pestilence happened in the year 291-293 of Rome. Ante C. 461.

colluvio mistorum omnis generis animantium, et odore insolito urbanos et agrestem confertum in areta tecta æstu ac vigiliis angebat, ministeriaque invicem ac contagio ipsa vulgabant morbos*.

I have remarked that, in the ingenious and learned discussion of the question what was the cause of the Sweating Sickness (Edin. Med. Journal, Oct. 1808, p. 469.) it is said, " Ramazzini informs us that persons were affected by eating the flesh of oxen which had the murrain—and there seems to be sufficient proof of diseases among cattle being productive of epidemical disorders among men." On examining the passage referred to in Ramazzini, and there is no other authority quoted for the opinion, I have been astonished to find that the very reverse of this consequence is noted by that writer. Ramazzini states this important point very impartially. He first presents his reader with two authorities for the affirmative of the proposition, viz. that plague succeeds, as a necessary consequence, the murrain of cattle.—These are Livy and Ripamontius †. To these he replies, hisce tamen duobus monumentis totidem habemus, quæ apponamus, nec longe petenda, viz. Fracastorius, and a MS. work on the art of the butcher (libri manuscripti artis lariconum.) Notwithstanding the wide extent and dreadful nature of these epidemics, the one in the north of Italy in 1514, described by Fracastorius, the other at Venice in 1599, among the horned cattle, no pestilence was the consequence to the human race ; " attamen iis annis nihil sinistri, præter rei familiaris damnum hominibus obtigisse, certo scimus." The inference therefore to be drawn is, either that the flesh of diseased bullocks was not eaten, or that the disease possessed not a contagion capable of propagating it to any other animal but the bullock kind. In either case, stated on the authority of Ramazzini, it is evident, I should imagine, the writer of the paper in question laboured under a misconception of that author's meaning ‡.

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* Lib 3. Ed. Lugdun. tom. i. p. 172. The whole passage is as follows: Grave tempus et forte annus pestilens erat urbi agrisque, nec hominibus magis quam pecori, et auxere vim morbi terrores populationis, pecoribus agrestibusque in urbem acceptis. Ea colluvio mistorum omnis generis animantium, et odore insolito urbanos et agrestem confertum in areta tecta æstu ac vigiliis angebat, ministeriaque invicem ac contagio ipsa vulgabant morbos.

† " Qui in libro de peste quæ anno trigesimo exacti nuper seculi cispadanam et transpadanam regionem pessime mulctavit, *pestilentiæ hominum pestem boum subsecutam refert.*" Ramaz. Opera, p. 459.

‡ Let us examine the passage of Livy which contains the instance Ramazzini refers to for the affirmative. Delectus consulibus eo difficilior erat, quod pestilentia, quæ priore anno in boves inquierat, eo verterat in homines. In morbos qui

It may be admitted, however, that there may sometimes exist a peculiar state of the atmosphere—a morbid cause floating in it, common to all animals, and at the same time acting on them—the effect of which on animals of very different descriptions, as man and the ox, may be marked by similar or nearly similar symptoms. This indeed, as I have already observed, seems to have happened at Grenada; for we find cynanche maligna epidemic among the human race at the very time*. Cattle were fatally afflicted with a disease whose symptoms were not dissimilar, except in superior violence, whose course was often equally rapid, whose supervention was equally unexpected, whose termination was equally fatal, and which exhibited morbid changes in the body after death precisely alike. But although the cynanche maligna is communicable from man to man, it does not appear that in this case it was so from man to the ox, or from the ox to man. There is a circumstance to be remarked here too curious to be overlooked. The pestilence or murrain among the cattle was first observed in Grenada at the time I have mentioned; and the cynanche maligna at the very same time also made its first appearance there—both were new, both disappeared nearly at the same time, and have not since been known. If this curious coincidence be compared with what has been recorded in Europe concerning these diseases, we shall find, I imagine, a concurrence of events nearly similar. In the beginning of the 16th century the cynanche maligna, or a disease so exactly akin to it as to leave little doubt of their being the same, is described by the physicians of that time (see Dr. Fothergill's account, &c.) as prevailing epidemically, and with most fatal effect in Spain and Italy; now, at this very time, the murrain, we are informed by Fracastorius,

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qui inciderant, haud facile septimum diem superabant: qui superabant, longinque, maxime quartanæ implicabantur morbo. Servitia maxime moriebantur, eorum strages per omnes vias insepultorum erat. Lib. 41. Leyd. ed. tom. iii. p. 487. Here we find a bare assertion, which even the fact, in a subsequent part of the passage, seems to disprove; and bears no congruous relation to the effect of marsh miasmata, which has ever been the bane of the environs of Rome, clearly described in the expression, maxime quartanæ implicabantur morbo. A new disease had taken place. The destruction of cattle during the year of murrain, by depriving the Romans, in a great measure, of their chief means of cultivating and draining the low swampy country bordering the Tyber, and withholding from them a principal source of aliment, at once augmented the volume, and concentrated the virulence of the exhalations to an extraordinary degree, and rendered the persons of the inhabitants more susceptible of their deadly influence.

* Sauvage mentions an instance of this under the 3d species of cynanche. Hæc species ante triginta annos epidemica fuit circa nemausum, maxime inter boves; atque etiam aliquot homines infecit. Tom. i. 489.

Fracastorius, Ramazzini, and others, prevailed with direful mortality in these countries. Again, the cynanche maligna was not so much noticed in England as to become a subject of accurate investigation until the time of Dr Fothergill and Dr Huxham, that is, not till 1748; and there is reason to believe that "the distemper among the horned cattle" was nearly coëval (see note 3d): it is certain that the alarm produced by it was not sufficient to occasion the adoption of decisive measures of prevention until 1747.

Having lengthened this paper much beyond the limits I originally proposed, I shall intrude no longer at present; but as the inquiry involves in it a very curious and important question relative to the influence of the effluvia from dead animal bodies, passing through the natural process of putrefaction in the open air, on living animal bodies, I shall take some future occasion to communicate to you such remarks as have occurred to me on the subject.

Clifton, 26*th July* 1809.

V.

Case of a Scirrhous Ovary, in which was found an Adipose Tumor, containing teeth and hairs, in a patient who died in the fifth month of Pregnancy. By JAMES MILLMAN COLEY, Member of the Royal College of Surgeons in London, and Surgeon in Bridgnorth.

ABOUT five years ago C. W., when in her 23d year, had a suppression of the menses, sense of weight about the pubes, and constant pain on the right side of the abdomen, at which latter part there was an obvious tumefaction. In spite of medical assistance, these symptoms continued to increase, and she became hectical and exceedingly emaciated. But, at the end of two years, there commenced a spontaneous discharge of coagulated blood and other matter, in great quantity from the rectum; and this continuing several weeks, terminated in her perfect recovery.

1809, Feb. 21.—The patient enjoyed good health until this time, when she complained of remittent fever, and observed that, for two or three weeks, she had not menstruated.

May 31.—The suppression of the menses continued; and she was now attacked with a violent pain in the abdomen; and this becoming more severe, was accompanied with fever, and with exquisite tenderness midway between the pubes and umbilicus. At this part the abdomen felt considerably tumefied, which circumstance was supposed, by external examination, to proceed from an enlarged uterus. Several varicose veins were observable on the belly and thighs; she had nausea and vomiting in the morning; had often felt pains in the breasts, which parts were increasing in bulk; and had, two or three weeks ago, a motion within the abdomen resembling the sensation of quickening: all which symptoms, together with dyspnœa, strangury, a sense of weight about the pubes, and the progressive enlargement of the abdomen, led me to suspect that she was pregnant. On examining the state of the os uteri, which was remarkably low down in the vagina, both I and my father, whose opinion I had solicited on the occasion, were convinced that the uterus was enlarged; and we accordingly told the patient and her friends that there was either a fœtus or some disease contained therein. She denied the possibility of pregnancy.

June 8.—Being much relieved by the remedies used, she went this day in a carriage to her own house, a distance of five miles, and bore the fatigue of the journey without inconvenience.

10.—Until this time she remained comparatively easy; but at five P. M. was seized with more violent pain and tenderness than ever, commencing about the umbilicus, and proceeding towards the epigastrium, attended with vomiting and hiccup. These symptoms continued without any intermission during six hours, at the end of which time she became more easy and tranquil; but the pulse was irregular and feeble, and the extremities cold. The os uteri was now in a dilating state. Fifteen hours having elapsed, she suddenly expired while she was raising herself in bed.

During the whole progress of this fatal attack, the patient was obliged to lie in bed with the trunk erect, and the knees drawn upward, and appeared to perform the act of respiration without the assistance of the diaphragm or abdominal muscles, by which means she avoided with immense difficulty, and by rapid inspirations, any great pressure upon the inflamed parts below.

The remedies used in the present case were such as the symptoms from time to time demanded; and it may be necessary to say, particularly with respect to bleeding, that it was employed to the greatest possible extent, both generally and locally. For the history of the former part of this patient's illness I was indebted to herself, because I did not then attend her; and therefore I regret exceedingly that I am not enabled to obtain or communicate a more particular statement of the symptoms which occurred at that time.

Morbid Appearances on Dissection.

Before death was apprehended by the patient, she was conscious, for a considerable time, of having some extraordinary disease within the abdomen; and had earnestly requested me, from motives of philanthropy, to open the body after her decease, in order that it might undergo an attentive examination. Although so speedy an opportunity presented itself, I could not obtain permission from her friends to perform this operation until the fourth day after death, when the body was almost putrid.

On puncturing the peritonæum, a large collection of fetid air and dark-coloured fluid instantly escaped, which were so offensive as in a few minutes to contaminate the atmosphere of the whole house. Both omenta were in a mortified state, particularly that portion which forms the peritoneal coat of the stomach. The muscular coat and cellular substance of this organ were slightly inflamed, but the impatience of the people in the house did not allow me time to examine the inner coat or its contents. The right ovarium was scirrhous, and having become nearly as large as the head of a full-grown fœtus, it occupied the whole hypogastric region, presenting in front a regular convexity, from the compression of the gravid uterus and the superincumbent parts. It appeared to have undergone much inflammation formerly, as its anterior surface adhered to the peritonæum, and required much force to effect its separation. Imbeded in the tumor lay the right fallopian tube, the cavity of which was completely obliterated by the adhesion of its sides, excepting one-fourth of an inch at the fimbriated extremity, at which part it appeared healthy, being only wrinkled and compressed. The greater portion of the tumor consisted of a scirrhous substance, with irregular strata of white ligamentous bands passing in every direction through it. On the front was a cyst containing one ounce of a yellow gelatinous fluid, and from the inferior and posterior surfaces proceeded an adipose tumor, of the size of a hen's egg, and of a curved shape, which had penetrated the sigmoid flexure of the colon, and lay within that intestine and the rectum, surrounded by their fecal contents. The cuticle, with which this was invested, though firm and dense, was destitute of rete mucosum and epidermis, and was covered with minute white hairs growing on its surface. A luxuriant crop also of strong hair, of various colours, and three or four inches in length, grew at its base on the right side, and, on the other side, at the base, was perceived a black hard substance, at first supposed to be horn, but, on dissecting the tumor, it was found to be a complete tooth, having the appearance of a human deciduous or primary bicuspis. The body and crown of it were in contact with the contents of the bowels, and had thence derived their black colour, for, after a slight friction, the white enamel appeared below. In a row parallel with each other, and connected with a bone resembling the superior maxillary bone of a fœtus, lay three incisive teeth in a state of formation, being partly bony and partly cartilaginous, and contained in three distinct capsules. The bicuspis was somewhat elevated above these, and reflected upon the side of one of them, which appeared to have thrown it out of its situation, while yet it was connected to it by a cartilaginous cord passing from the fang of the bicuspis to the crown of the other tooth. The fang of the perfect tooth had not undergone absorption, nor was its crown carious. There was an aperture near the base of the tumor, which led from the intestine to the ovary, and had become cicatrized.

The bladder was so compressed against the pubes, that it did not contain more than three or four ounces of urine.

On raising the diseased substance towards the pubes, the enlarged uterus was seen behind it, with its fundus a little above the brim of the pelvis. Being punctured at this part, the liquor amnii made its escape, after which a female fœtus, five months old, together with its funis and placenta, was extracted. The body was swollen, and the epidermis loose, and it had the appearance of having been dead many days. The uterus was free from disease, but was not thicker than one-eighth of an inch, and the os uteri was a little dilated.

The left ovary and fallopian tube had a natural appearance; but there was not time to examine them minutely.

The dissection of the body now terminated, the diseased ovarium having been previously removed, for the purpose of being examined attentively, and afterwards preserved.

Observations on the above Case.

The strangury and prolapsus uteri were found to have been occasioned by the pressure of the diseased ovary. But to form a correct idea of this circumstance, it will be necessary to observe, that the ovarian tumor being connected in front to the peritonæum, bladder, and pubes, and posteriorly to the rectum by the adipose tumor, an arch was formed, which, stretching across the brim of the pelvis, mechanically prevented the uterus from rising. And the constant irritation thus kept up by the uterus increasing in bulk, and struggling to rise from its confinement, was probably a remote cause of the inflammation and subsequent mortification of the adjacent omentum.

There seems to be some difference of opinion respecting the formation of hairs when found in a diseased ovary. Mr Anderson (*Edinburgh Medical and Surgical Journal, Vol. II. p.* 182.) says, " It is remarkable that when teeth are found in the ovarium, hairs are also present; *but, unlike other hairs, they have no bulbs*," &c. On the contrary, in a case of diseased ovary, related by Mr Gooch (*Medical and Chirurgical Observations, anno* 1773, *p.* 110.), the hairs were found convoluted in an adipose substance, and all of them had bulbs. And, in the present case, the bulbous extremities were so large as to be evident to the naked eye. With respect to the apparent difference in the structure of ovarian hairs, I believe the fact to be simply this :—That the hairs are originally secreted by small glands or bulbs, as on the external surface of the body, and that the growth of the part on which they had been formed having ceased, the farther increase of these is also prevented; the process of depilation then succeeds, and they are found loose and intermixed with the diseased mass. Being thus detached from all sources of supply, the bulbous part becomes decomposed and destroyed, while the hairs themselves retain their pristine appearance and cohesion for a long period of time. Hence those hairs that have their bulbs perfect, are either observed to be growing to some part destined for their formation and support, or, if loose, have been recently separated, while those which have no bulbous extremities are found to have been long detached from the part originally forming them, and exposed to the decomposition which in these cases occurs. The present case and Mr Gooch's afford instances of the former species of hairs, and that of Mr Anderson (loc. citat.) one of the latter species.

As instances of the comparative irritability of different uteri, it may be remarked that, in the present case, and in that of Mr Gooch, the expulsion of the fœtus did not accompany or follow the mortification of the omentum in the one, nor of the uterus itself in the other; while, in some cases, a slight inflammation of the intestines, peritonæum, or even of the distant pleura, has speedily induced premature labour, or occasioned women to abort.

The apparent distance of time which, from the history of the case, was probably five years, at which the bicuspid tooth was formed previously to the three incisive ones, together with the circumstance of the former having been displaced and reflected by one of the latter, afford a striking analogy with the process of dentition in children, in whom a small incisor often supplies the place of a deciduous bicuspis; and, farther, it is not improbable but that, at the end of the seventh year from the patient's first illness, the bicuspis might have lost all connexion and support with its internal pulp, and been expelled through the intestine.

That these extraneous bodies were the remains of an extra-uterine fœtus I am not inclined to believe, because there was no vestige of a cyst or bag capable of containing it; but I am disposed to suspect that they were the product of an impregnated ovum, or what may be called an incomplete extra-uterine conception; and this hypothesis accords with the history of the case. The obliteration of the right fallopian tube might have been occasioned by the passage of this ovum through its sides. In addition to these teeth and hairs, there also may have been formed other substances, which might have escaped unobserved with the coagulated blood through the rectum, and the fistulous aperture, near the base of the adipose tumor, was perhaps the channel through which this evacuation had made its way. In other instances there has been reason to believe that these singular appearances in the ovarium had not been occasioned by an impregnated ovum. (Baillie's Morbid Anatomy.)

Bridgnorth, August 1809.

VI.

On the effects of Arsenic, By G. N. Hill, Surgeon.

[Concluded from vol. v. p. 319.]

Lepra.

The Asiatic researches, already quoted, highly recommend the arsenical pill, as a sovereign remedy for the cure of elephantiasis. Lepra sometimes, even in this country, is found to be scarcely a less filthy and disgusting disease. The medicine is directed to be taken in a morning fasting, with a little cold water, and again at bed-time. The value of a constant attention to cleanliness in leprous affections is well known; hence a frequent use of the warm bath becomes an indispensable external remedy, to which may be added, as an able auxiliary, coinciding with the arsenic, the nitric acid. I think I may venture to observe, that the conjoint effect of these two powerful medicines, will accomplish what either separately would not. A gentle saline aperient should precede the commencement of their use, and likewise be repeated at due intervals, during the progress of the cure. The obstinacy of cutaneous diseases is well known, and also the inefficacy of common remedies; but in the species now under consideration, the decoct. ulmæ has appeared to be a useful vehicle for the exhibition of the acid, twice or three times a-day, whilst the pill is taken night and morning. It sometimes happens, that the skin of leprous persons is extremely tender, so as scarcely to endure even the mildest applications. In such situations, a strong infusion of the bruised leaves of fresh digitalis, with a small proportion of aq. litharg. has proved highly soothing and curative; but where the diluted solutio arsenici can be borne, it will be found greatly advantageous. Equal portions of the simple aqueous preparation, and rain water, in general agree well.

Syphilis.

Few diseases of an equally terrible nature owe so much to medical skill as syphilis. The improved treatment now so universally established, has greatly contributed to disarm this cruel hydra of many of its horrid heads; still there are too many left, the obstinacy of which occasionally render existence burdensome, or form the first irrevocable step towards an untimely grave. I allude to those cases, where the common remedy appears to have lost its power over the enemy, or some untoward symptom exists, which is manifestly aggravated by continuance in the use of mercury. Precisely under these circumstances arsenic is found to confer great advantages, affording very commonly a resource, as much to be depended upon as its great precursor was in the more early and less obstinate stages of the complaint. Ancient syphilitic ulcers, whether of the skull, tibia, or sternum, in the throat, nose, &c; exulcerated, degenerated buboes, and cutaneous eruptions, of long standing; the excruciating pains of the limbs, forcing the wretched sufferer from a wearisome bed, at the midnight hour; exostosis and node; the anomalous syphilitic or mercurial fever; will all generally yield to arsenical remedies, with nitric acid in a decoction of the woods, cinchona, and occasionally opium: I add occasionally, because, in a majority of cases, the anodyne effects of arsenic render its constant use unnecessary. The extr. hyoscyam, *when well prepared*, is an excellent auxiliary to arsenic, exhibited in a sudorific draught at bed-time;

bed-time; but no dependance can be placed upon this valuable British opiate, unless it be prepared with more than common attention to the fixed rules for making the more delicate extracts, which it may, without fear of mistake, be averred is not the case one time in fifty.

Hemicrania, Tic Douloureux.

These affections of the head and face are well known, for their inveteracy of suffering in the unhappy subject, and their too frequent unyielding obstinacy of removal, nothwithstanding the most powerful means may have been perseveringly instituted. It will not be overlooked, that it is an object of the highest importance, in all these distressing situations, to endeavour to ascertain any cause that may exist in some distant part, as the fountain of the painful symptoms, and to adopt every feasible method for its removal; but when this is apparently done, complete success is not found uniformly to follow, for the primary cause of all the original evil may be removed, and still, from new circumstances, habit, &c. the effects remain to keep up extensive pain and mischief. Debility never fails to accompany this situation, constituting the precise circumstances in which arsenical remedies have proved salutary. Genuine fresh extr. cicutæ, and occasional small doses of opium, with mild saline aperients, have seemed to add to their efficacy, in subduing some very obstinate instances of painful affections of the head and face. In cases where great debility does not forbid, arsenic will undoubtedly produce a speedier and more permanet effect, when preceded by a dry emetic, exhibited after the manner of the late eccentric Marryat: an irritating mercurial sternutatory has likewise been found no mean assistant.

Ulcus Phagadenicus.

Every surgeon has, no doubt, at one period or other, found the branch of practice, comprehending old ulcers, very tedious and troublesome. This observation is fully confirmed, by reflecting on the various modes which have been suggested, to improve the ancient method of treatment of long standing foul sores, and that the exact manner which may be entitled to the name of best, is at this day unsettled, in almost every particular; some practitioners deeming absolute rest as indispensable to sound cure, others, no less confident, declaring it unnecessary. Both methods are doubtless right in suitable cases, as, perhaps, no department of surgical practice affords a greater variety of paths to obtain the same termination, as the old ulcer. But whatever may be the situation of the part affected, the exact nature of the discharge,

charge, whether attended or unattended with caries, having for its source a syphilitic or scrofulous origin, accompanied with subjacent osseous enlargement, if general debility be present, arsenic will be found a good remedy, to induce a more healthy state of the ulcerated surface. Should great irritability prevail in the system, the occasional assistance of opium at night, will facilitate the tonic action of the arsenic, whilst the vehicle best calculated to promote the general intentions in the day, has been by long experience found to be the decoct. angusturæ. When an ulcer of this kind assumes a cancerous appearance, the arsenical solution, properly diluted, forms a useful external application, when judiciously adapted to the feelings of the patient. When thus brought into use, too great nicety in wiping the whole surface of the sore, previous to each renewal of dressing, is rather prejudicial than salutary; whilst too much care to keep the surrounding surface cool, and free from fretting eruptions, or extensive inflammation, cannot be exercised.

Scirrhus and Cancer.

We are now arrived at that period of rational inquiry and liberal investigation concerning the operation of powerful remedies upon dreadful diseases, that it will not be hazarding too much to say, it is highly probable the period is fast approaching, when scirrhous and cancerous affections will be more successfully treated than they have hitherto been. The melancholy increase of these diseases has formed an additional stimulus to inquiry and experiment, which, if prosecuted with unabated vigour, I hope I am not too sanguine in saying, must be crowned with ultimate success. Experience has furnished me with some substantial reasons for considering arsenic as a medicine of considerable merit, both with regard to actual cancer and scirrhus, which may one day terminate in that horrible species of ulcer; and although I cannot as yet say it will remove the one, or cure the other, as certainly and safely as mercury commonly does a syphilitic swelling or open sore, yet it will in a great majority of cases retard the progress of the true scirrhous tumor, and often prevent its becoming cancer. In some it has appeared to dissipate such swellings completely; but whilst I say this, with undoubting confidence, it must never be forgotten, that the same universal principle as to the influence of this violent remedy over these diseases, rules here as in respect to all others; no absolute specific can, in the nature of things, exist. But the general circumstances of the patient, and those which are peculiar to the existing evil proving favourable to the administration of arsenic, it cannot be hazarding too much to say, that more benefit is promised from this remedy,

medy, in the prevention and cure of cancer, than of any as yet known agent. A recital of cases would swell this paper beyond those limits which have already been too greatly trespassed upon; yet such is the importance of the disease, that I cannot deny myself the satisfaction of attempting to illustrate the effects of the medicine, by recording a case which occurred in the London Hospital, in the year 1785.[*]—J. B. aged 55, was admitted an out-patient, with an extensive cancerous under-lip, the result of a swelling which commenced fifteen years before, in the form of a hard blue lump, during ten of which it made but little progress in size, though occasionally very painful, and apparently as if ready to burst, especially in cold weather; at length, growing suddenly to the size of a large kidney bean, it opened. He washed it with hemlock-juice, and also took the extract in large doses, but growing worse, was taken into the house. The sore had now extended towards the chin, and had a very unfavourable appearance; the general health of the sufferer was very indifferent, constant irritation pervading the whole system. The ulcer was directed to be dressed twice a-day with lint, moistened with a mild watery arsenical solution, about two grains to the pint of water. This gave great pain, but on a small addition of water, was easily borne. He also took from a 16th to an 8th of a grain of pure arsenic twice a-day, using no other means for five months, at the end of which period, his health was so improved, and the sore so nearly healed, that he discharged himself from the house, neglected his remedies, and returned to excessive drinking, and other irregularities. Thus the disease returned with increased violence, and, at the end of four months he was readmitted. The ulcer occupied nearly its original space, with the addition of more inflammation and circumferential induration. He was again put upon the same plan; the same success followed, though more slowly than before, viz. mitigation of pain, irritation, inflammation, and uneasy nights, and improved discharge from the ulcer. On attempting to push the medicine farther than a fourth of a grain twice a-day, he complained of sickness, a peculiar pain in his head, and general indescribable uneasiness. The dose was reduced, but the medicine persisted in until the original state of improvement was regained; but such was the irresistible propensity of the sufferer to inebriety, that it overcame all desire to get well; he would leave the house a second time. The same neglect followed; and the remedy being no longer applied, he fell an easy victim to disease and folly. From this instance, I entertained a favourable opinion of the anti-cancerous properties of arsenic, and since that time have had just cause for believing, that this poison has been too much neglected, merely because it has not performed greater effects than rational expectation could be fairly entitled to look for: hence those which, under judiciously adapted circumstances, it undoubtedly will effect, have been overlooked. Cancerous affections of the face often happen to persons, who, in early life, were frequently syphilitics, and either been ill cured, or the peculiar remedy had been so often employed, as finally to have lost its effect, or been productive of pernicious consequences. In such a situation arsenic will be found very effectual, little less so than it is in curing an intermittent. During its use the extracts of hyoscyamus and cicuta combined have generally considerable effect; as an external remedy, the tinctura ferri muriatici, diluted with a strong infusion of digitalis, or the juice of the fresh plant, has happily answered. When tumors exist in the breast, which, from every collateral circumstance, give cause to believe they are truly scirrhous, and consequently may some future day become cancerous, arsenic has doubtless considerable claims to attention; nor need there exist any fears as to hasty increase of the impending mischief, from delaying the use of the knife, for, whilst diseased action appears to be confined to the glandular obstruction, and the system at large is not discernibly contaminated, this medicine most certainly, from its active power, will effect more than practitioners, who have not given it an extensive and persevering trial, will readily believe. This power over serious and impending mischief, can only be obtained by due perseverence, and as extended a degree of patience as prudence will justify. It is farther to be remarked, that the salutary operation of arsenic upon the system is, in the scirrhous tumor, as in most other diseases, greatly augmented by the occasional interposition of gentle aperients, and the utmost regularity in the use of a uniformly simple diet, a mild fomentation, with gentle dry friction, subsequently applied twice in the day, as external remedies have appeared greatly promotive of the general intention. This method, early enough adopted, that is to say upon the first discovery of the tumor, and before cancerous action has actually commenced, will, I am fully persuaded, cause the discussion of many swellings hastily condemned to the scalpel. I by no means presume to say, all that may by this, or any other plan be dispersed, were scirrhous, and would ultimately become cancerous; but I do consider it as the indispensible duty of every medical man so to consider them, when he is not clearly convinced to the contrary. The disposition to cancerous diathesis, there can be no doubt, has frequently a long existence previous to its attaining that degree of extent and violence which will terminate fatally. Arsenic will counteract this tendency, although it will but too commonly fail in affording much assistance, when the whole system is contaminated by an open ulcer; but having, on a former occasion, delivered some sentiments on the too hasty removal of supposed scirrhous tumors, I now close what I wished to say on the subject of arsenic.

VII.

Sequel to "An Apology for the Cutting-Gorget." By W. SIMMONS, Surgeon at Manchester.

ON Sunday, September 10th 1809, I assisted Mr Hamilton at an operation for the stone, upon a boy about four years of age. After Mr H. had made the external incision, and opened the urethra, the aperture into it was concealed by the writhing of the body, so that it became necessary to replace the nates square with the end of the table, as preparatory to the operation, to bring the opening again to correspond with the external wound, when the beak of the gorget found a ready admission into the groove of the staff.

In the usual method of operating, the assistant would now resign the charge of the staff; yet, for him to retain it, and give the handle the required elevation from the right inguen, will be an advantage, since it will confer on the operator the command of both his hands, to introduce the gorget into the bladder. In the present case, I raised, and held the staff, while Mr Hamilton pushed forward the gorget upon it, at once into the bladder. Little force was required to extract the stone, which was of a compact texture, and weighed upwards of four drachms. The urine passed in part along the usual course of the urethra the following day, and he very soon recovered.

In the operation of lithotomy, the part of the urethra to be opened is the *membranous*, to find which, it should be recollected that, in the erect position of the body, the membranous portion of the urethra lies under the centre of the arch of the pubis, a little below the symphysis, having the bulb situated at its anterior, and the prostate gland at its posterior extremity. Making allowance, therefore, for any deviation of the parts from the natural position, occasioned either by the posture of the patient during the operation, or by the projection of the staff *in perinæo*, and aiming at the urethra *on a line with the inner surface of the* *symphysis pubis*, that part of the membranous portion of the urethra, which lies contiguous to the prostate gland, will be penetrated by the scalpel. If attention be paid to these particulars, indeed very little projection of the staff *in perinæo* will be needed, and thus the risk of the point of it slipping out of the bladder altogether removed; and the section made by the gorget will so little deviate from a straight line, and be so limited in extent, as to supersede, in a great measure, what has been called *making the sweep of the staff.*

In other instances, I have experienced the safety of entrusting the staff, after its introduction, to the care of the assistant-surgeon; and the utility of releasing the left hand of the operator from this restraint will hardly be questioned.

Before I quit the subject, it may be permitted me to lay particular stress, in this stage of the operation, on the importance of attending to the proper adjustment of the patient's body; for, unless the nates are laid square with the end of the table, the side of the bladder might be wounded by the gorget, and other injurious consequences ensue.

This sequel to the "Apology for the Cutting-gorget," which was favoured with insertion in the third number of the former volume, will, I trust, leave little to wish for in conducting the operation of lithotomy by that instrument with precision, certainty, and safety.

Manchester, 21st October 1809.

VIII.

Observations on the Cause of Purulent Ophthalmia of Infants. By W. Ankers, Esq. London.

Controversy, when conducted with candour and moderation by the parties who differ in opinion, is frequently of essential service in elucidating and extending our knowledge of the subject under discussion. The mind, when it is employed in investigating the origin of any particular disease, and has adopted a peculiar doctrine respecting it, is greatly assisted in ascertaining the truth of this doctrine, by having facts and arguments urged, which militate against the conclusions thus drawn. Impressed with this idea, I beg leave, through the medium of your Journal, to offer a few remarks upon a paper in your Number for

July 1809, on the subject of purulent ophthalmia, by Mr Simmons of Manchester.

This gentleman relates a case of the disease, as occurring in an old man of 75, and upon it grounds his arguments, tending to prove, that the ophthalmia purulenta of new-born children originates from a "*peculiar constitution of the atmosphere.*" I do not pretend, in the slightest degree, to call in question the authenticity of the case above alluded to, as related by Mr S.; but, as his deductions from it partake of novelty, and as I think they are not exactly correct, I shall examine into their merits, and endeavour to place in a proper point of view, the real weight which they bear against the opinion which is generally entertained at the present time, respecting the origin of the disease, by the most eminent, and indeed the majority of the profession.

The opinion formed respecting the cause of the complaint by Mr Ware, in his work on the affections incidental to the eyes, Mr Simmons thinks not valid, merely on account of the disease of leucorrhœa being so very frequently met with, whilst that of purulent ophthalmia is, comparatively, rare. But, surely this inference is far from being conclusive, as it does not follow, that during the time of birth (the mother being affected with fluor albus,) the child should, in *every instance*, have the matter of this disease applied between its palpebræ: And, even should such acrimonious matter come into contact with the eyes, it would be unproductive of any unpleasant effects, if sufficient attention were paid to the washing of the child's organs of vision immediately subsequent to delivery. In proof of this, I am able to bring forward my own experience. I have attended several females during parturition, who were affected with this discharge, but I never saw the purulent ophthalmia occur in any child whose mother I had delivered. This I attribute to the careful ablution of the infant's eyes, which I ever recommended; and, more particularly, when I am aware that the mother has *fluor albus* at the time. Mr S. asserts, that "within his own observation the purulent ophthalmia has occurred, where the presence of fluor albus has been denied." In answer to this, I am of opinion, (and have found it to be true), that there are many females who would deny their having a discharge of this nature, if they had an idea that the complaints of their children was attributable to it. And I am so convinced of this circumstance, that, in my inquiries on the subject, in the numerous cases which I have seen, I never put direct questions to the mothers, lest their suspicions should take the alarm, but endeavoured, in a circumlocutory manner, to gain the information that I wished. Although I am decidedly of opinion, that the disease under consideration, as met with in newly born children, almost universally arises from the application of the discharge of leucorrhoea, yet I will not deny, that other acrimonious matter may induce a similar affection. Therefore, for the sake of argument, I will grant, that in the instance alluded to by him, fluor albus did not exist, and that the assertion of the female was veritable; but, is it not extremely probable, that the natural discharges of the vagina, by any adventitious stagnation, may become of such an acrimonious quality, as to give rise to the disease upon which I am writing? Does it not frequently happen, that the penis is excoriated after coition, when there is not the least reason to suppose the existence of any local or specific complaints in the female. Of this I have seen several instances in men who have been long married. As to Mr Simmons's argument, that any unnatural secretions of the vagina, remaining adherent to its internal membrane, would be carried off by the discharge of the liquor amnii, I must beg leave to dissent from it. When fluor albus is present at the time of birth, the vagina and parts adjacent are generally in such a relaxed state, that they do not oppose a resistance sufficient to cause the rupture of the membranes surrounding the ovum, until the child's head has advanced unto the vagina, or even to the os externum; in which case, they form a kind of sheath to the vagina, at the moment that the waters are evacuated, and thus prevent any matter which may remain attached to its internal surface, from being carried off; yet they are afterwards retracted over the head, by the action of the uterus, and thus allow it to remain, in contact with the sides of the vagina, affording an opportunity for any such matter to gain access to the eyes. But, even granting the water to pass off at the commencement of the labour, I should be inclined to doubt, whether they would have the effect of detaching any mucous substance adhering to the vagina, as its tenacity and cohesive quality are generally very great.

I should not have presumed to place my individual opinion in opposition to the experience of Mr Simmons, had I not been aware, that some of the most eminent in the profession entertained a similar idea to my own, respecting the cause of the disease in question. Mr Cooper, in his excellent public lectures on surgery, collaterally mentions the complaint as being liable to be confounded with scrofulous ophthalmia, and says, "this disease is almost ever found affecting very young infants, soon after birth, and is the consequence of the application of the matter of *fluor albus*, which comes into contact with the eyes of the infant, during the time that it is passing through the vagina of the mother.

ther *." This evidence must carry great weight with it, when we consider the talents, eminence, and extensive practise of the gentleman who gives it. Mr Gibson, whose professional abilities are well known, and who has devoted much of his attention to the affections of the eyes, is likewise of the same opinion with Mr Cooper, and is, I believe, the first person who conveyed it to the public, through the means of your Journal. Purulent ophthalmia is not very common, yet I have seen six or eight cases of it brought before this gentleman, at the Manchester Infirmary, of a morning; and upon questioning the women who had conveyed them there, they mostly acknowledged the circumstance of their having had, what they termed the "whites," during the period of utero-gestation and parturition. The disease is also found to prevail mostly amongst the lower classes of society, who, we may naturally suppose, are not so attentive to cleanliness as those in a more elevated sphere of life, consequently the number of cases that apply to public charities for relief, is much greater than what is to be met with in private practice. This will readily account for the friend of Mr Simmons not having seen an instance of the ophthalmia purulenta in his own practice, although several of the females whom he had attended were affected with the disease of leucorrhœa. I have omitted to mention Mr Ware as agreeing with the above-mentioned gentlemen in opinion. Professor Scarpa, in his admirable work upon the diseases of the eyes, does not appear to have been aware of the coincidence of the two maladies; at least, he does not allude, in the slightest manner, to any thing which might lead him to infer that he was acquainted with it. He says, "si la maladie a été précédée de la rétropulsion de quelqu' exanthème de la tête,"— And again, "si l'on a quelque indice que la mauvais lait de la nourrice a quelque parte à cette maladie," † &c. This is barely hazarding an opinion on the subject.

Why Mr S. should term the opinion which these eminent men entertain of the primary cause of the complaint, "*purely hypothetical*," I am at a loss to comprehend. That doctrine which embraces a number of facts in its support, I do not consider as such, therefore the one which I attempt to defend cannot, in justice, be so called. So far from his having "demolished the hypothesis," I think he has not shaken it. He must certainly allow, that his own reasoning on the subject is much more worthy of the name of hypothetical, as he is capable of bringing merely a solitary opinion, (I will not call it a fact), in its support, namely,

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* I quote from his Lectures in MS.

† *Traité Pratique des Maladies des Yeux*, tom. prem. p. 241.

ly, that of the appearance of the disease more frequently at some particular seasons of the year than at others; which, if it were true, would give a faint degree of sanction to the theory which Mr Simmons has promulgated, of its partaking, at such periods, of the nature of an epidemic. This, however, I have never remarked, nor do I think such circumstance is mentioned by any one who has written upon the subject. Several medical gentlemen, with whom I have conversed, have not noticed such an occurrence in their practice. But, allowing this to be the case, I should account for it in a different manner from what Mr S. has done. I would reason thus: At some seasons of the year, the discharge resulting from the existence of fluor albus, gaining admission to the infant's eyes, there is a greater disposition in these delicate organs, (from their being at such times in a more irritable state, arising from the peculiar temperature of the atmosphere) to that salutary reaction of the system which endeavours to remove any stimulating substance from, or repair any injury done to the body, from whatever cause it may originate: This reaction is productive of the inflammation; and this inflammation is of that peculiar kind, inducing the puriform discharge, which is one of the two discriminating symptoms of the disease in question. Thus, the offending matter, when applied, at one time of the year, to the eyes, will be washed away, either by the natural secretions of the parts, or by external ablutions, and will prove inert; whilst, if it be applied at another, it will produce the complaint of purulent ophthalmia, by having an auxiliary in the atmosphere, proceeding from a cold, moist, or whatsoever other state of it, which may more particularly influence its operation upon the body I am also of opinion, that when the purulent ophthalmia is *most frequently met with*, the *number* of *cases* is so *small*, as entirely to do away any supposition of its ever appearing as an epidemic; otherwise, the *cause* being a *general* one, the *effect* would be *equally* so, and we should meet with numerous patients labouring under the disease, at the same time, which is a circumstance, I believe, never happening.

London, August 26, 1809.

IX.

IX.

On the Purulent Ophthalmia of New-born Infants. By Robert Lyall, H. Surgeon.

The disease entitled " purulent, or puriform ophthalmia," has of late attracted much the attention of medical practitioners, who have assigned different causes for its origin. In the following pages it is my intention, 1*st*, To notice the opinions entertained by different professional gentlemen with regard to the causes of this disease; 2*dly*, To endeavour to deduce what may be considered as the cause or causes of this disease; and, 3*dly*, To consider the means necessary to be used for the prevention of this violent and destructive malady. As it is not my intention to give an historical account of the purulent ophthalmia, I have not been anxious to ascertain at what period it first engaged the attention of surgeons. Mr Ware, in his remarks on the ophthalmia, &c. published in 1787, gives a particular description of the disease, but scarcely does more than hint at its origin*. His words are: " The purulent eye is usually unconnected with any other disorder, and is supposed to arise from the child's being exposed to the cold air; but it is occasionally accompanied with eruptions on the head and other parts of the body; and I have more than once seen it attended with evident signs of a scrofulous constitution." In the last edition of this author's works, published in 1805, his opinion respecting the disease is expressed in exactly the same words, from which it would appear, that, even in the course of eighteen years, he had not changed his opinion, or added any thing new concerning its origin. Scarpa, after mentioning the particular symptoms by which purulent ophthalmia is characterized, remarks: " As this disease commonly attacks infants a little after birth, or manifests itself in adults immediately after the suppression of a virulent gonorrhœa; or, as it is produced in some manner by the transport of the venereal virus to the eyes, it is called in the first case, the puriform ophthalmia of infants, and in the second, the acute gonorrhœal ophthalmia†.

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* Not having the first edition of this author's works at hand, I am uncertain whether the same description there occurs.

† Traité Pratique des *Maladies* des Yeux, tome premiere, 271.

The author has here said nothing about the cause of this disease in infants, but has merely told us that it occurs; and, from another passage which I shall transcribe, it is evident that he had formed no distinct idea concerning the cause. After speaking of the antiphlogistic plan of treatment to be followed, in order to cure the disorder, he remarks: " Afterwards it will be very useful to apply a blister to the neck, especially if the disease have been preceded by the retropulsion of any exanthematous affection of the head: besides, it will be proper to purge the infant with simple syrup of succory and rhubarb, united with a little magnesia, at the same time ordering the nurse not to overload the stomach of the child with too much milk, or pap, as is usual, nor to bind it tightly, or dress it with heavy clothes, after the custom of our ladies, even in the warmest season; and if we have any reason to suspect that the quality of the nurse's milk has a share in the production of this disease, she ought to be changed, or the disease which exists in her humours, or in her organs of digestion, corrected*. Edmonstone, in his useful work, makes the following remarks: " Neither in the cases which have fallen under my observation, nor in those related by others, have I been able to trace any uniform efficient cause of this affection."—" I have not remarked it as being peculiar to the children of parents of any particular constitution; but there is little doubt but that it is connected with a loaded and oppressed state of the bowels."—" This appears to be indicated by the quantity, blackness, and fetor of the stools, which usually accompany it; and hence it is extremely probable, that a torpor of the alimentary canal, and the protracted stay of feculent matter in it, may predispose to this affection †."

Mr Gibson, in the Edinburgh Medical and Surgical Journal for April 1807, seems to have been the first who assigned the most common cause for this disease Mr Gibson first relates the circumstance which suggested to him the idea of there being a frequent coincidence of leucorrhœa in the mother, and the puriform ophthalmia in the child. He then adds: " In the course of the last year I met with thirty-five examples in my private practice at the Manchester Infirmary, in which this was the case." A little further on he says: " Although, from the frequent coincidence of fluor albus in the mother, and the puriform ophthalmia in the child, I think it highly probable that these diseases stand in the relation of cause and effect to each other, I would, by no means, be understood to suppose, that fluor albus is the only cause of a puriform discharge from the eyes of an infant; nor do I imagine, that the eyes of every child which passes through a vagina affected with fluor albus, must necessarily be attacked with puriform ophthalmia. I merely think, that such an affection may be apprehended; and if this view of the matter be correct, it leads to the following important points in practice; *1st*, To remove, if possible, the disease in the mother during pregnancy; *2dly*, If this cannot be accomplished, to remove artificially as much of the discharge as possible from the vagina at the time of delivery; *3dly*, To pay, at all events, particular attention to the eyes of the child, by washing them immediately after delivery, with a liquid calculated to remove the offending matter, or to prevent its noxious effects." The next opinion concerning the origin of this affection, which I shall quote, is that of Mr Hill of Chester, from the Edinburgh Medical and Surgical Journal for April 1808. It would appear, from what this gentleman says, that he had, previous to the publication of Mr Gibson's remarks, suspected the same cause for this disease. After relating a case, in which the child, immediately after birth, was carried before a blazing fire, and which was followed by the puriform ophthalmia, he says, " In justice to the excellent remarks of Mr Gibson, it must be observed, that the mother of this child had been subject to leucorrhœa, of the species designated by the late Dr Darwin fluor albus calidus, during her pregnancy of all her children, but, from previous suspicion in other cases, that this might operate as a cause of the ophthalmia, I had been particularly cautious to delay rupturing the membranes as long as possible, so that the head remained a very short time in the vagina, unprotected by them, having entertained the notion that this method, with the rush of waters, would in some degree prevent long contact, and also remove the offending cause." It would also seem, from what Mr Hill says in different parts of the same paper, that he regards not only fluor albus as a cause of this disease, but also the too frequent custom of inadvertent exposure of the child's eyes to light and heat, almost as soon as it is separated from the mother. As the general means of prevention, he consequently recommends " the entire seclusion from artificial light and heat, with immediate and almost unceasing tepid ablution of the child's eyes." He adds also, that " It is most obvious, that the surgeon ought to direct the time and gradual exposure of the eyes to day-light." Mr Morrison has favoured the profession with some observations on purulent ophthalmia, in the London Medical and Physical Journal for July 1808. After some preliminary remarks, he says, " But the disease in question, (purulent ophthalmia), I am decidedly of opinion, is produced by a venereal cause." Mr Morrison then relates the first case which attracted his notice, in which he tells us, that the mother, previous to parturition, had a complaint unequivocally of the venereal kind, and that the coincidence of a similar discharge in the mother and fœtus, excited particular attention. He then remarks, that it occurred to him that the eyes of an infant, during their passage through a vagina where such a purulent virus was present, would be liable to receive the disease in question by contact. Mr Morrison's practice consists in ablution and injection, with the exhibition of a little of the sub-muriate of mercury.

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* Traité Pratiq. tom. prem. 274.

† Edmonstone's Treatise on Ophthalmia, &c.

In the same journal for the month of September (p. 237.), we find some remarks by Philo on this infantile affection. The principal intention of the author seems to be contained in the following words: "I only contend that the disease strictly so called (pur. ophth.), is induced by the application of the discharge from leucorrhœa." Mr Ware, in a small tract entitled, "Remarks on the Purulent Ophthalmia," which was published in 1808, has supplied us with some other observations on this disease. In page 8th he speaks thus: "It is difficult to discover in what way this disorder was first occasioned. The resemblance which it bears to that species of ophthalmy which, in many instances, has either accompanied or followed the common gonorrhœa, strongly impresses my mind with an idea that the two disorders bear a close reference one to the other." A little farther on: "In like manner the purulent ophthalmia (without at present inquiring into its cause) appears to me to be in general communicated by the application of a peculiar poison to the tunica conjunctiva, which inflames and produces a considerable discharge from it, but rarely occasions any ulceration in the tunic, or any affection of the general system."—"Infants as well as adults are subject to the purulent ophthalmy; and it is a fact well deserving notice, that some of the worst cases of this disorder that have occurred in infants, have happened in those whose mothers were subject to an acrimonious discharge from the vagina at the time the infants were born." In the last edition of Mr Ware's works we find no such opinions as the above. Mr Ware neither speaks of the time when he first remarked the connection between the purulent ophthalmia and the acrimonious discharge from the vagina, nor any particular case which led him to form the idea. The remark, however, is valuable, and would have been still more so, had the words "acrimonious discharge' been more definite. Mr Ware no doubt includes under it fluor albus, from his relating a case in which, in a woman thirty-two years of age, the purulent ophthalmia was accompanied by this disease; and it appears from the relation of this case, that he had observed the connection between the diseases at least as early as February 1807.

The last observations I shall quote are those of your correspondent Mr Simmons. He has favoured the profession with a few remarks on purulent ophthalmia, but particularly concerning its cause.

Mr Simmons commences his paper by the relation of a solitary case (which will be found at the 283d page of your Journal for July last), and then proceeds thus, " As an authority, then, highly respectable, I may be allowed to quote the opinion of Mr Ware, who has assigned the origin of purulent ophthalmia to an *acrimonious vaginal discharge*; and this can be supposed to operate only on the principle of inoculation, by forming a lodgement upon the child during birth."

Here it is first to be observed, that Mr Ware's words are misunderstood, for he says, " and it is a fact well deserving notice, that some of the worst cases of this disorder that have occurred in infants, have happened in those whose mothers were subject to an acrimonious discharge from the vagina at the time the infants were born " But Mr Simmons gives Mr Ware the credit of assigning this disease to an acrimonious vaginal discharge, while Mr Ware himself only points out to the notice of practitioners the occurrence of purulent ophthalmia in children whose mothers were, at the time of their birth, subject to an acrimonious discharge from the vagina, without assigning it as the cause of the disease. *2dly*, It is to be remarked, with regard to the manner in which this acrimonious discharge may act, that the words " inoculation" by forming a " lodgement" upon the child during birth, are certainly incompatible with each other. By the word inoculation, we in general understand the insertion of matter into some part of the body. By lodgement, in the present instance, we would mean that the matter remains upon the child externally, but is not inserted.

Mr Simmons goes on, " And I must confess, that where the mother had been affected with the fluor albus at the time of labour, and the purulent ophthalmia had ensued in the child, such an opinion might seem specious at first sight; but when we have considered the frequency of that female affection, and the comparative rareness of this species of ophthalmia, we shall, I think, be inclined to doubt the validity of the opinion." From what Mr Simmons says here, we might be led to think the purulent ophthalmia not a common disease. For my own part, I can vouch that, within the last eleven months, I have not seen fewer than thirty cases at this infirmary. Hence it would appear, that Mr Simmons does not know well what is going on in this institution; but the chief point in his writing seems to be, to prove that he had a case of purulent ophthalmia, in which fluor albus could not be suspected to be the cause. But admit that it had a different cause; no one, as far as I know, has ever asserted that the purulent ophthalmia may not happen without the presence of leucorrhœa, or an acrimonious vaginal discharge at the time of parturition. Nor has any one attempted to say, that if the woman, at the time of parturition, has been affected with fluor albus, it is a necessary consequence that the infant should be attacked with purulent ophthalmia. Grant, then, that Roscoe's case (the case already mentioned by Mr Simmons) had a different origin. Who has denied it? Or what does this lead to?—merely, as I shall endeavour to prove, that different causes may produce this disease. If Mr Simmons had consulted minutely the opinions of different authors, he might have been led to think so, and would then possibly have formed a less absolute conviction than the following: He goes on thus; "My own conviction, therefore, is, that the ophthalmia occurring in a child, whose parent, at the time of its birth, was affected with leucorrhœa, is merely a coincidence of circumstances, in themselves wholly unconnected, rather than the result of cause and effect; and, consequently, that this supposed origin of the ophthalmia purulenta is purely *hypothetical.*" I must confess myself at a loss to comprehend what is exactly meant by this sentence. To me it appears impossible that a "coincidence of circumstances" can be in themselves wholly unconnected; but, to Mr Simmons's conviction, in the sense in which he probably intended it, I cannot coincide. The numerous cases which have come under my eye, incline me rather to agree with those practitioners who are of opinion, that the purulent ophthalmia of the child, and the fluor albus (or any other acrimonious discharge from the vagina) of the mother, are a coincidence of circumstances, so far from being in themselves unconnected, that they stand in the relation to each other of cause and effect. In support of this opinion we have Mr Ware, who very probably thinks that there is a connection between the ophthalmia purulenta in the infant, and an acrimonious discharge from the vagina of the mother. We have Mr Gibson and Mr Hill, who have traced the coincidence between the same disease in the infant and fluor albus in the mother. If farther confirmation were wanted, Mr Morrison's opinion might again be stated; he thinks there is a connection between the purulent ophthalmia in the infant and the venereal virus in the vagina of the mother. In almost all the cases which I have seen of this infantile disease, I have made inquiry of the mother, whether she was troubled with the whites at the time the child was born? The answer has very often (though not always) been in the affirmative.

Mr Simmons next asks himself a question: "But perhaps it may be asked, whence, then, would you deduce the origin of this disease? To this question, however, I am by no means prepared to give a direct answer, nor is it often easy, after having demolished an hypothesis, to replace it by an opinion that shall be deemed incontrovertible."—"But I should be disposed to reason thus: that the organ of vision at so tender an age is very sensible to the stimulus of light; that the system in general is possessed likewise of a greater share of irritability than the adult, rendering it susceptible of an impression from any occasional cause, such as injury in the birth, or sudden exposure to cold and moisture (without great care), immediately on its extrusion from an equable and moderate temperature, in which it had been so long confined" Mr Simmons's reasoning here (all things being considered) is somewhat odd: "that the organ of vision is very sensible to the stimulus of light," no one will hesitate to deny; but if the comparative rareness of purulent ophthalmia is a reason why it should not be produced by fluor albus, a disease to which the eyes of but few children can be exposed, I would ask, if its rareness must must not be an argument infinitely more conclusive against light as a cause of purulent ophthalmia, since the eyes of all children must be exposed to light. Till this is answered satisfactorily, the author's reasoning will avail but little; although we are ready to admit that light is a powerful agent, when made to act suddenly upon that delicate organ the eye, especially when it is affected by disease; yet we are not disposed to regard it as a very frequent cause of the disease we are now considering. However productive of ophthalmia cold and moisture may be, yet we cannot suppose them to be very common causes of purulent ophthalmia; for we know it is customary in this country, that as soon as the child is parted from the mother, it is wiped, rolled in a blanket, or some other cloth appropriated to receive it, and then carried before the fire. As soon as the woman is cleaned and got comfortably warm in her bed, the child is carried to her. Here, then, the temperature in general may be as high, or higher than the mother's womb, though not so equable, and of course all moisture must be dissipated. No doubt, however, some children are suddenly exposed to cold and moisture; but it is a fair question to ask, whether these children became affected with puriform ophthalmia? I am inclined to think that sometimes it may be the case, but, for the common occurrence of this disease, we must look for some more general causes. Whether injury in the birth may ever have been productive of the disease I will not determine, but merely state, that I have never known it to be the case.

Mr Simmons next says, "And I must confess that the more frequent appearance of the ophthalmia purulenta at certain seasons of the year, more than at others, has induced my belief, that, occasionally at least, it has partaken of the character of an infantile epidemic, to account for the production of which, I should then refer to a cause more general in its operation, namely, to a peculiar constitution of the atmosphere." That this disorder occurs at all seasons of the year, Mr Simmons seems sensible of; but, from its greater prevalence at certain seasons than others, he has been induced to think it sometimes partook of the nature of an infantile epidemic. Now, if this was the case, would new-born infants alone be subject to the epidemic? Or is it not more probable that boys and girls of different ages would also be liable to it? Or might not even adults become affected with it from that cause?

I have now stated the opinions of different authors concerning the origin of this affection, and I hope I have examined them with that candour and freedom which ought to be evident in all our inquiries. I shall proceed, in the 2*d* place, from these opinions, to endeavour to deduce what may be considered as the cause or causes of this disease: 1*st*, then, From the frequent coincidence of leucorrhœa in the mother, and puriform ophthalmia in the infant, I would conclude, that very probably these diseases "stand in the relation of cause and effect to each other." We may retain this conclusion till it be proved not to be the case by more ample evidence than any hitherto adduced. 2*dly*, That if the mother is affected with any complaint in the vagina, which is accompanied with a secretion of matter (this may be from venereal sores, from gonorrhœa, or any other acrimonious discharge) at the time of parturition, and the infant, after birth, is attacked with puriform ophthalmia, we may suspect such secreted matter, by being brought into contact with the eyes of the infant during its passage through the vagina, as the cause of the disease. 3*dly*, That this disease (not limiting it to infants) may probably sometimes be caused by sudden vicissitudes of the weather. 4*thly*, That, from what Mr Hill has stated, we should also be inclined to suspect, that exposure of the eyes to light and heat might produce the disease. 5*thly*, That it is not improbable that this disease has its origin from more sources than have been suspected.

As many practitioners may not have seen a sufficient number of cases of the purulent ophthalmia, to enable them to form an accurate opinion respecting its origin, and as such observations as some of the above * are calculated to draw the attention of surgeons from using the proper means for the prevention of this disease, I shall note down what conclusions I think may be drawn respecting this point, from the different opinions already stated. 1*st*, then, As the disease may arise from leucorrhœa, from the discharge from venereal sores in the vagina, or, probably, from any other acrimonious discharge, it may be recommended to attend to the three important points mentioned by Mr Gibson †. 2*dly*, From what Mr Hill says, it may be advised that the child be not carried before a blazing fire, or be otherwise exposed to strong heat or light as soon as it is born. 3*dly*, That the infant be not exposed to the vicissitudes of the weather; and, 4*thly*, That in all cases, tepid ablution of the infant's eyes should not be neglected.

Sept. 3. 1809.

X.

On the Connection that subsists in certain cases between Amenorrhœa and Phthisis Pulmonalis, as cause and effect. By William Shearman, M. D.

Dr Cullen has asserted, in his description of phthisis pulmonalis ‡, that " in the female sex, as the disease advances, and sometimes *early in its progress*, the menses cease to flow; and this circumstance is to be considered as commonly the *effect*, although the sex themselves are ready to believe it the sole *cause* of the disease." There is some ambiguity in this expression; for if the suppression occur as the *disease advances*, how can it possibly be mistaken for the *cause* of the symptoms that *previously* appeared, even by the sex themselves? I apprehend it could not be unknown to Dr Cullen, that in many instances of pulmonary consumption, a suppression of the menses does certainly *precede* every appearance whatever of pulmonary affection, and it is an interesting subject of inquiry, whether the pulmonary disease is not occasioned by the suppression? and it may be useful to ascertain whether, in certain cases, amenorrhœa does not prove a cause of phthisis in the predisposed?—or, rather, whether, in some cases of amenorrhœa, an affection of the lungs, resembling phthisis, and sometimes terminating in it, is not one, among several other effects produced by, and dependent upon, the suppression of the menses; to which suppression, therefore, we are to direct our attention, a forming the chief disease, upon the removal of which all the other symptoms will vanish, provided that can be effected before the lungs shall have sustained such organic lesion as to render them incapable of continuing duly to perform their proper functions, so essential to life and health? The progress and connection of the various symptoms will perhaps be best illustrated by a case which occurred to me not long since. A young woman, aged 20 years, of a very delicate habit, but in pretty good health, had experienced about five months ago an obstruction of the menses in consequence of cold; from this time her health gradually declined, she became languid and weak, had frequent pains in her side, and occasionally a short dry cough. Her appetite was impaired, and she became rather emaciated. In the month of July I first saw her; at this time she complained of pain in the left side, occasional fits of coughing, which recurred at uncertain intervals, but generally with considerable violence night and morning. She had scarcely any expectoration, little thirst, pulse 120, appetite impaired, bowels regular, countenance and lips very pale; there had been no return of the menses since their first suppression. A blister was immediately applied to the pained part, and directed to be kept open; five grains of rubigo ferri, combined with myrrh and castor, to be given three times a-day, with infusion of chamomile flowers, and the feet to be immersed in warm water every night. The pain was removed by the blister, and it was healed up. The medicines were continued about six weeks; during this time the pain occasionally recurred, which was always soon removed by a blister. The cough was sometimes considerably better, sometimes aggravated, with trifling expectoration; her pulse was diminished to 90; her appetite improved, and her countenance looked better. I now discontinued my attendance, and have since learned, that the only remedies she afterwards used were, expectorants and blisters, occasionally, when there was cough or pain, and she *entirely omitted* all other medicines. She continued without much alteration, excepting that she gradually grew weaker, and within the last fortnight was almost confined to bed, without, however, the cough or expectoration being greater than before. On the Saturday morning previous to her death, she was siezed with violent excruciating pain in the abdomen, particularly about the umbilicus, which continued, with more or less violence, for several hours; it then left her, and she seemed much in the same state as before, until the Thursday morning, October 13th, when, soon after having got out of and into bed, without assistance, she suddenly expired.

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* Meaning the observations stated in a former part of the paper.

† See this Journal, vol. iii. p. 161.

‡ See First Lines of the Practice of Physic.

On opening the thorax, there was found a very general adhesion of the pleura pulmonum to the pleura costalis, yet not so firmly but they might be easily separated by the fingers; there was a small quantity of fluid in the cavity, not exceeding three or four ounces; the lungs were very dense, and of a dark colour, resembling the liver in appearance; portions of them, when put into water, fell to the bottom. Being cut into, some of the bronchial cells contained a purulent matter, but in small quantity, and here and there was a small excavation the size of a pea; a few small tubercles also were found, not inflamed. The external surface of all the small intestines was very red, and seemed to be studded with small red points, resembling the villous coat of the same intestines when injected. There was no appearance of gangrene, neither was there any adhesion between the different convolutions of them, nor between any of them and the peritonæum; the omentum also was extremely vascular, the mesenteric glands were enlarged and hardened in several places, the pancreas, spleen, and other viscera, were of their natural appearance.

That the lungs were injured in a great degree, was evident from the tubercles found in them, and from the pus contained in the bronchial cells, but still the ulceration had not arisen to such a height as to be the immediate cause of death. More extensive affections than the present one are perhaps frequently recovered from, and tubercles may remain for many years with impunity, if no exciting cause of inflammation arise. Although, likewise, there were marks of inflammation upon the intestines, yet this inflammation did not immediately destroy the patient; for the pain had left her some days previous to her death, indicating a cessation of the inflammation, which, as it was not followed by gangrene, cannot be considered as the cause of death. The enlarged state of the mesenteric glands affords a presumption, that the flow of chyle into the blood-vessels might have been interrupted, but certainly there was not sufficient appearance of emaciation in the dead body, to enable us to attribute her death to this circumstance. We must look for the cause of death, not in the affection or destruction of any one particular organ, but in that state of general debility, consequent upon the interruption of a very important function in the female economy, during which state of debility, parts of the body peculiarly predisposed are very apt to take on disease. In the present patient, there appeared to exist a scrofulous diathesis, wherein the lungs and mesenteric glands are always readily susceptible of disease, from the slightest causes, and always the more readily the greater the state of weakness in the system, however induced. Every kind of weakness is accompanied with irregularity in the action of the living power; hence spasmodic contractions of various parts. This disposition to preternatural contraction is particularly observable to take place in the blood-vessels, in all cases of amenorrhœa, forming the principal symptom in what has been called chlorosis, differing from hectic fever, chiefly, in depending upon a morbid action of the vessels themselves, independent of the absorption of extraneous acrimony. This state of the vessels is perhaps at first produced by plethora, arising from a retention of a quantity of blood, which excites the larger arteries to stronger action, while yet the resistance in the extreme vessels in the uterus is not overcome by its increased action, long continued, exhausts the living power, and produces weakness. During this state of general weakness, and morbid action of the blood-vessels, partial inflammations are very apt to arise. No wonder, then, that the lungs, when, from constitutional predisposition, they are so susceptible of disease, should be one of the first parts to take on inflammation. If by suitable remedies the lungs are relieved, (the disposition to general inflammation still continuing from its original cause, the suppression not being removed) some other part is very readily affected; hence in the present case arose the inflamed state of the intestines, during which all the thoracic symptoms disappeared. That this irregularity of action in the vessels, sometimes exciting symptoms of inflammation in one part, sometimes in another, entirely depends upon the suppression of the menses, is evident, from its generally ceasing upon the return of that evacuation, and from the perfect restoration of health immediately following it. No occurrence is more common than the attack of cough, pain in the side, and difficulty of breathing in females, soon *after* the obstruction of the menses, and upon their recurrence all these symptoms going off. If this view of the case is founded in fact, does it not follow, that in pulmonary complaints, arising from suppression of the menses, much mischief may be done, by employing, to any extent, the strict antiphlogistic treatment, to remove these secondary symptoms, since it evidently tends to increase that debility which originally produced them. There can be no doubt, but that when the affection of the lungs has proceeded to a certain extent, it will go on independently of its cause, and is no longer to be removed by the restoration of the suppressed evacuation, but requires the same treatment as if it arose from any other cause whatever. It is in the earlier stages of the complaint, where it is consequent upon the suppressed discharge, that I would direct my attention to the suppression, as the chief disease, and merely palliate the troublesome pulmonary symptoms; and experience has convinced me how easily this may be effected by the application of blisters, repeated according to circumstances, while we are endeavouring to reproduce the suppressed evacuation by appropriate remedies, and to restore strength to the system by the use of tonic medicines and nourishing diet. There is a natural tendency in this *chronic general inflammation* to wear out itself, but as this requires many months, and as, during that time, much mischief may arise in various parts, it is always proper to endeavour to remove it, which is most effectually done by restoring the natural discharge from the uterus. The almost constant failure of success we meet with in our treatment of incipient phthisis by evacuations and debilitating medicines, will justify us in recurring to an opposite mode, founded upon the opinion of its being in many instances a symptomatic affection only. Dr Beddoes observes, "In some instances, when the fox-glove has removed the hectic fever, and greatly reduced the *expectoration and cough*, the decline shall become almost imperceptible, the patient *frequently appearing chlorotic*, but being really phthisical, as the *event* most commonly, and *sometimes* dissection, has evinced." This serves to confirm the opinion, that the pulmonary symptoms are not in these cases the original idiopathic disease. If it be objected, that this doctrine can only be applicable to incipient phthisis in *females*, I would appeal to the experience of practitioners to determine, whether, in the female sex generally, the approach of phthisis is not more insidious, and its progress more slow than in men, where we usually find the attack more marked, and immediately consequent upon some obvious occasional cause, the symptoms sooner becoming more violent, and its whole progress more rapid. That this difference in the appearance of the disease arises chiefly from its frequently being rather symptomatic than idiopathic in females, will be apparent, if we find, that when phthisis arises in them from some obvious occasional cause, and where there has *never occurred suppression of the menses*, its attack and progress are more marked and rapid, as in the male. That it is so, I think experience will justify me in asserting; and impressed with this opinion, I cannot but recommend that we should keep in view the probable dependence of the pulmonary symptoms upon the interrupted functions of the uterus, and direct our treatment accordingly*, at least, until we are convinced upon trial, that the opinion itself is fallacious, and the proposed treatment inefficacious or prejudicial.

London, 21*st July* 1809.

XI.

Case of singular Disease of the Heart. By JOHN HENRY WISHART, Member of the Royal College of Surgeons, and one of the Surgeons to the Public Dispensary of Edinburgh.

JAMES HASTON, a boy about 14 years of age, of slender delicate appearance, was affected, when I was first called to him, in November 1808, with a constant very strong palpitation of the heart, which could be perceived distinctly, at some distance, elevating the whole left side of the thorax. This pulsation was attended with great difficulty of breathing, particularly when in the recumbent posture, and he had been unable to lie on the left side for many months. He was frequently attacked with violent pain about the middle of the sixth and seventh rib, where the pulsation was most violent, shooting to his back, and up towards the clavicle; his countenance was pale and languid; the lips were of a dull livid colour; the pulse at the wrist was very quick, small, and feeble; the extremities were always cold, and the nails of his fingers quite white: he had little desire for food; his tongue was rather foul, and his nights were very restless, and he was often obliged to have the door or window opened on account of the oppression about his breast. There was also an evident prominence of the whole of the left side of the thorax, from the clavicle downwards. The dyspnœa was first observed about two years before, and it then only affected him on running, or making any sudden exertion. The beating in the left side was not remarked for some months afterwards. Last summer he had three attacks of hæmoptysis, which returned at the interval of six weeks, and lasted for two or three days, and each attack was preceded by an increase of the dyspnœa, and a sense of fulness and stricture in the thorax, which were always relieved by the discharge of blood. No cause could be assigned for these complaints.

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* The frequent success of Griffith's myrrh mixture, so much used formerly, may perhaps depend upon its emmenagogue powers; it certainly was serviceable in a greater proportion of females than males labouring under pulmonary complaints.

Although the violence of the pulsation and severity of the affection of the respiratory organs, left little doubt of there being some organic affection of the heart, or large vessels in its neighbourhood, yet, as I had met with some cases of preternatural pulsation, which evidently arose from nervous irritation, and had been removed by the use of purgatives, I resolved to try their effect in the present case, and afterwards employ the digitalis, with the view of lessening the inordinate action of the heart.

The appearance and quantity of the feculent evacuations at first seemed to justify this idea; for, at the end of this month, and during the first weeks of December, he was evidently relieved. His breathing became nearly natural; the pain of the left side seldom troubled him; and the pulsation, which had occasionally been felt at the scrobiculus cordis, was then confined to the left side, and was so moderate as to give him little uneasiness; the pulse at the wrist was about 80, fuller, and of more natural strength; his general health was improved, and he was able to go down stairs, and walk about more freely than he had done for many months. But, about the middle of December, having exposed himself too freely during the cold weather, all the symptoms recurred, with more violence than before. The pain was not confined to the left side, but extended along the margin of the ribs of the right side, occasionally striking through to the back, but it was not so constant as formerly, and the attacks, though severe, were generally of short duration; the pulsation communicated a peculiar thrilling sensation to the finger, as if a fluid were interposed; his appetite became bad, and he was affected with an unusual drowsiness during the day, which was partly ascribed to his being often obliged to sit up in bed nearly the whole night, owing to the oppression and anxiety he felt in his breast; he was also troubled with a short tickling cough. The same plan was continued, and the tincture of digitalis was given to the extent of ninety drops daily, but the succeeding month it was intermitted, on account of the nausea it excited, and a tendency to diarrhœa having supervened. This, however, was soon restrained by the use of opiates, and the digitalis was again employed. There was little variety in the symptoms till about the end of February and beginning of March, when he became affected with a painful distention of the abdomen during the night; it, however, abated much on a discharge

discharge of flatus taking place, and no appearance of fluctuation could be perceived; the pulse became still more feeble, and sometimes could hardly be felt at the wrist; the pulsation was felt more distinctly towards the point of the sternum, and less in the left side; it varied from 80 to 130 beats in a minute. He was unable to walk across the room without stopping frequently, on account of the dyspnœa; the lower extremities were always cold, and at times slightly œdematous, and painful, particularly round the knees About the beginning of April he spat up, for two days, several mouthfuls of frothy blood; his cough became more frequent, and he had no desire for food; he was, therefore, allowed a little wine and water, and a grain of opium was given two or three times a-day, to allay the pain; and he was often so ill, that it was supposed he could not survive till morning. Towards the end of this month, a circumscribed swelling, about the size of an egg, was observed in the epigastric region, and the slightest pressure occasioned most acute pain in it, shooting along the edge of the ribs of the right side. The œdema of the lower extremities increased, and an obscure fluctuation was felt in the abdomen; the scrotum also was filled with watery fluid, and the face was observed to be slightly swelled. He had, on the 29th, several threatenings of syncope; was siezed with cold sweat, and his respiration was said to have stopped for a few minutes, and the tendency to syncope returned whenever he attempted to sit up. In the beginning of May the pain left the thorax entirely, but was very acute in the epigastrium, and sometimes extended over the whole abdomen, which was very much swelled, and fluctuation was more distinct; his urine became scanty, and he was affected with constant thirst. The supertartrite of potass was now conjoined with the digitalis; the opium was repeated according to the severity of the pain.

From the 8th to the 31st May, having been absent from town on professional business, I had not an opportunity of observing the progress of the case, but on my return, Mr Wardrop, who very obligingly took charge of the boy in my absence, informed me, that about eight days before, at the pressing solicitation of the boy and his friends, he performed the operation of paracentesis, by which about two pounds of turbid fluid were evacuated. For two days after the operation he was sensibly relieved. Since that time, however, the swelling increased more rapidly than before; the tension was very great; he complained much of the pain at the scrobiculus cordis, and along the edge of the ribs on the right side, and he could not endure the slightest pressure on these parts. He was unable to lie on his back, or on his left side; the pulsation in the left side was less distinct, and he said it had given him no uneasiness for the last three weeks; the breathing was very much oppressed, short and quick, with cough, and viscid expectoration; pulse very feeble; the superior extremities were much emaciated, and the lower were swelled to double their natural size, and quite cold. On the 2d June, and following days, the expectoration was tinged with blood, and he spat up a few mouthfuls of pure blood; a few drops were also discharged from the nose. On the 5th the pulsation was felt very violent in the left side, and was observed to raise the whole of that side; his breathing became still more oppressed, attended with a rustling noise; he was obliged to sit nearly erect, or bent forwards; his pulse could not be felt; the features became quite sunk, and he died on the 6th, about ten o'clock.

Dissection.

On opening the abdomen, a large quantity of serous fluid rushed out, and fully six pounds were collected. The liver was observed to be pushed down into the epigastric region, and was not in contact with the diaphragm; it appeared to be more turgid with dark-coloured blood than usual, and very firm. The other abdominal viscera were sound. On opening the thorax, the lungs on the right side were collapsed, and of a small size; their whole surface was covered with a thin layer of coagulable lymph, which in some places formed small bands, connecting the lungs to the pleura costalis. On cutting into the lungs, their substance was found of a firmer consistence than natural. About a hand-breadth of the diaphragm, on the right side, was much inflamed, and somewhat thickened; about four pounds of dark-coloured serum were contained in the right cavity. The lungs on the left side were quite sound, and a very small quantity of fluid was contained in this side.

The cavity of the pericardium contained about eight ounces of limpid serum. The heart appeared of its usual size, but a small portion of the surface of the right ventricle, towards the origin of the pulmonary artery, was evidently inflamed, and the root of the pulmonary artery had a similar appearance. On opening the right auricle, the tricuspid valve was found much thickened, and agglutinated in such a manner as to form a firm partition between the auricle and ventricle, leaving only a small opening to communicate between the two cavities. This opening was of an oval form, with smooth round thick edges, and large enough to admit a common sized quill. In the ventricle the fleshy tendinous columns were very much matted together. On opening the left auricle and ventricle, several of the fleshy columns

PART II.

CRITICAL ANALYSIS.

I.

The Muscular Motions of the Human Body. BY JOHN BARCLAY, M. D. Lecturer on Anatomy, Fellow of the Royal College of Physicians, and of the Royal Society of Edinburgh, &c. &c. 8vo. Pp. 590.

THE study of the animal economy, like that of every other department of medical science, has always been influenced by the predominant taste or genius of the student, by the effect which his previous or contemporaneous pursuits have produced on his mind, or by the prevailing fashion of the day. Hence has arisen that predilection for particular subjects of physiological research, which has distinguished certain periods, or certain individuals.

When the metaphysics of Des Cartes had succeeded to the doctrine of the peripatetics, the organization and faculties of the sentient principle became the favourite study of the physiologist, and the nervous system was investigated with ardour, if not with success. When the more rational philosophy of Bacon, aided by the mathematical genius of Newton, began to attract general attention, the laws of motion, which had been so successfully traced in the phenomena of the universe, were applied to the *animal machine*, and the motions of the animal body became the object of particular and minute investigation. Calculation and experiment were mutually employed in this comparatively new research, and the labours of Borelli, Keill, Hales, and Robinson, though rendered less useful than they might have proved, by a too rigid regard to mathematical demonstration, independent of the vital powers, tended in no small degree to elucidate an abstruse and difficult subject.

Nothing has contributed more to the gradual perfection of the sciences, than the prepossession of their votaries towards particular departments; especially, when these departments are so extensive as to require a frequent application of the general principles that belong to the science of which they form a part. As a divison of labour, in science, as well as in the mechanical arts, is rendered necessary by the imperfection of human nature, these individual and restricted operations, contribute to the general advantage of the whole; and, when a Newton, a Linné, a Haller, or a Lavoisier, appear to exercise their genius and industry, for the welfare of mankind, those scattered fragments are collected and arranged, and form the materials of a regular and connected system.

Impressed with a conviction of the utility of this divided labour, and of the numerous defects of our physiological systems, we were so far from being surprized at the appearance of a new work on *the Muscular Motions of the Human Body*, that we were disposed to congratulate the physiologist, on the renewal of his attention to a neglected part of his studies, which must be the effect of such a publication. We have long been convinced, that a systematic work on the muscles, adapted to physiology and practical medicine, rather than to anatomical dissections, was still a *desideratum* in medical science.

If we except the attempt made by Winslow, in his *Exposition Anatomique*, to arrange the muscles according to their functions, we scarcely know a single writer on anatomy or physiology, who has ventured to deviate from the good old method, of classing them according to the regions in which they lie, or the bones into which they are inserted. The regions have, indeed, been variously arranged, and variously denominated, condensed or expanded, or otherwise modified, according to the fancy, or the system of the writer; but, in all their varieties, they are calculated rather to assist the practical anatomist in his dissection of the muscles, than to aid the physiologist in developing their actions, or the practitioner in availing himself of these actions, to obviate or remove the morbid affections of the moving organs. In the arrangement of Albinus, professedly anatomical, the number of regions is thirty. In the modification of that method by Innes, they are increased to thirty-two, and are further distinguished into layers. In the system of Dumas, (*Systeme methodique de nomenclature et de la classification des muscles du corps humain*, and *Principes de Physiologie*, tom. ii.) which seems intended by its author as a physiological arrangement, the number of muscular regions amounts to forty-seven; and, in the system of Bichât (*Anatomie Descriptive*, tom. ii.) which it is become fashionable to regard as a most happy combination of anatomical and physiological accuracy, these regions are more minutely subdivided, so as to exceed sixty.

We shall not, at present, inquire how far these fritterings of science into a multitude of sections, first introduced by the professors of the German universities, are adapted to the ends which they propose, of facilitating the acquisition of knowledge, and providing the student with a sort of *memoria technica*; but we have no hesitation in asserting the inadequacy of all the arrangements of the muscles, which we have mentioned, to answer any useful purpose, in explaining the muscular motions. Suppose, as a familiar instance, we select that muscle, which, when we bend the elbow, forms a remarkable protuberance on the inside of the arm, and which is called by anatomists *Biceps Brachii*, or, *Biceps flexor cubiti*. This muscle lies *chiefly* in that region, which is called by Albinus and Innes the region of the *humerus*; by Dumas the *humero-clavicular*; and by Bichat the *anterior* brachial region. Without adverting to the vagueness of the first and last of these names, let us consider how the knowledge of the region in which the muscle is placed aids us in discovering its action. The utmost information on this head, which that knowledge affords us, is, that a muscle placed in the anterior (*interior* or *palmar*) side of the *humerus*, will draw the moveable points, to which it is attached, in the same direction. The *biceps brachii*, then, will move the fore-arm, so as to bend the elbow; but, whether it may exert any other action, and in what direction this action is likely to take place, are scarcely to be collected from the situation of the muscle, as to region. From considering the attachments of the muscle, and observing by experiment on the subject the several positions into which the muscle is brought, by the various motions of the arm, we find that the *biceps brachii*, besides bending the elbow, assists in drawing the arm *forward* or *raising* it in the direction of the face, in drawing the arm *away from the body, or abducting it*; and in rolling the fore-arm in the direction of the *radius*, or placing the hand in the *supine* position. Our information as to these particulars, will, no doubt, be aided by knowing the bones to which the muscle is attached, but, unfortunately, the only arrangements which convey that information, viz. those of Cowper and Winslow, are imperfect, and in some degree confused.

An arrangement of the muscles, that should point out which of them contribute to effect the several motions of the animal body, appears, then, to have been a defective link in the chain of physiological knowledge.

If the existing works on the muscular system, were defective in point of arrangement, they were still more defective in their account of the compound actions of the muscles. In no work with which we are acquainted, not excepting the *Anatomie Descriptive* of Bichât, have the compound actions of the muscles been considered with that attention and accuracy, which their importance and utility demand. The actions of the individual muscles, or, as most writers choose to call them, their *uses*, have been repeatedly enumerated, and repeatedly displayed in synoptical tables; but, if we consider, that, in the natural motions of the animal body, no action is performed exclusively by a single muscle, and that, in many of these motions, a great variety of muscles is, at once, or successively, thrown into action, to assist, oppose, or regulate each other, we must conclude, that these compound actions ought more particularly to be studied and investigated. We cannot but agree with Dr Barclay, that this is *the only way in which we can ever understand the admirable mechanism of the human body.*

To supply these deficiencies in the history of the muscular system, seems to be the principal object of the work before us; and we shall presently inquire how far this object has been attained.

Another view of the author has evidently been, to collect, for the use of his pupils, all the more important facts respecting the muscles or the muscular motions of the human body, and to give what he deems an improved explanation of several phenomena in the animal economy, that are connected with muscular action.

Dr Barclay's treatise must, therefore, be considered under three points of view; as containing new arrangements of the muscles; as containing a digest of facts relating to the muscular system; and as affording additional information, or as offering some peculiar opinions on the actions of the muscles, especially on their compound actions.

The work is divided into three parts, of which the first contains the arrangements of the muscles into regions, of Albinus, Innes, and Dumas, and two tables of the names of Albinus alphabetically arranged, having, in the first place, the synonymes of Innes and Dumas, and, in the second, the synonymes of all the writers, from Sylvius to the first Monro, who have treated on the muscles prior to the time of Albinus. The second part contains Dr Barclay's arrangement of all the muscles belonging to the bony system, in the order of the several bones to which they are attached, from the *os frontis* to the last phalanges of the toes, with general observations on the component parts of a muscle, and on the general subject of muscular action. The last part contains the author's peculiar arrangements of the muscles, according to the motions in which they cooperate, with occasional observations, intended to explain the manner in which this cooperation takes place.

Prefixed to the whole, is an explanatory introduction addressed to the author's pupils, and a short explanation of the terms employed by him to denote position and aspect, and constantly used as the anatomical nomenclature of the present work.

Such is a general outline of Dr Barclay's publication on *the Muscular Motions of the Human Body*, the merits and defects of which we propose now to examine.

In his introduction, Dr Barclay naturally endeavours to impress on his pupils the importance of the subject of which he is about to treat. After observing, that the mode in which many of the combinations that produce all the varieties of animal and vegetable bodies are formed, must, from the minuteness of those combinations, for ever elude the most penetrating eye, and, from this intricacy, or from unknown causes concerned, for ever bid defiance to human research, he adds,

> " It is only in the muscular motions of animals, that the wonderful manner in which many of these combinations are formed, may be traced to causes that are visible, distinct, and within the reach of every observer; and this happy and illustrative instance of the method in which the Sovereign of the Universe produces an incalculable variety of effects, by the means of a few secondary agents, must render the motions of the animal system highly interesting to every studious philosophic mind.
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> " By the varied and combined actions of the muscles, which every man sees, or easily may see, there is formed an exhaustless source of distinctions for every individual of the human species, not only in the expressions of the countenance, the articulation, the tone of voice, and the hand-writing, but in the motions of walking and running, in the attitudes of standing, and the mode of placing the foot upon the ground. By the same species of combined action, are likewise produced all the singular varieties of language, that have ever distinguished, that now distinguish, or that ever will be found to distinguish nations; all the singular species of exercise, and all the varied operations of art. In tracing these phenomena to their source, the philosopher and divine might find almost innumerable proofs of the power, the wisdom, and the providence of Deity; and might thence inculcate, with more than ordinary clearness and force, some of the most useful and important truths that ever were impressed on the human mind.

Our author's readers are led to expect, " that they will learn the nature and causes of a number of sympathies that arise from attachment, situation, and function, be able to explain many singular symptoms that occur in disease, and often be able to provide a safe, expeditious remedy, where others, that are less acquainted with myology, would be torturing their patients with all the contrivances of ignorant empiricism."

When an author undertakes to recommend a favorite subject to the attention of his readers, he is not unfrequently led to carry his partiality too far, and to adduce, in support of this darling topic, arguments and illustrations which, however convincing they may have proved to himself, often fail of producing equal conviction in the minds of his readers. We think that we perceive, in various parts of Dr Barclay's treatise, marks of this over anxiety to interest us in the subject of muscular motion; and we doubt whether his observations will advance the popularity of that department of anatomy. After all that has been advanced in favour of the study of myology, strictly so called, we must think that, to the practical physician, the *minutiæ* of this study can be of litle advantage. To the physiologist, indeed, in his researches into the laws of the animal economy, and to the surgeon, in his treatment of fractures and luxations, we will admit, in the fullest extent of Dr Barclay's remarks, that myology is of the highest importance, though we fear that something is still wanting to render that study interesting and attractive.

The case which Dr Barclay quotes at page 325, and to which he refers in his Introduction, to support his opinion of the utility of an accurate acquaintance with the muscles to the medical practitioner, is certainly very curious and instructive, and fully proves the importance attached to the study of myology by Winslow; but it must be allowed, that such cases are extremely rare, and, like the anomalies of grammar, serve only as exceptions to the general rule, "that a minute knowledge of myology is not essential to the successful practice of medicine."

If it be permitted us to draw the line of distinction between what Bichât calls the muscular system of *animal life*, and that of *organic life*, so far as has been done by that ingenious writer, we should say, that the former more immediately relates to surgery, the latter to practical medicine. It is, surely, with the muscular action of the vital organs, *the heart*, *the arteries*, *the diaphragm*, *the alimentary canal*, that the physician is especially concerned.

We could have wished that Dr Barclay had given a brief popular view of his anatomical nomenclature, instead of the *short explanation* of his terms of position and aspect which is prefixed to *the Muscular Motions of the Human Body*. To those who do not possess our author's former publication on his new nomenclature,

menclature, or have no opportunity of hearing the terms illustrated and explained in his public lectures, this short explanation will be of little use; and to those who possess the one or have heard the other it is unnecessary.

Of Dr Barclay's nomenclature we approved upon general principles, and we were anxious to see it applied to practice, that we might judge of its utility by experience. We are now convinced that it will be very long of coming into general use, and that its exclusive adoption in the work before us will make it much less generally read and understood than it would have been if it had been written in the common vague language of anatomy. To Dr Barclay and his pupils there may be no difficulty in following his descriptions, and in comprehending at once the exact import of all his terms; but we must confess that we have had great difficulty in understanding things very plain in themselves, merely from the language in which they are expressed being so new and strange to us. We cannot avoid regretting, that Dr Barclay has, in its first application to use, carried it so very far as he has done. If he had used it only where the advantage of its precision over the vagueness of common language was evident, his readers would have admired it, and would have become insensibly familiar with it, and it would have been gradually adopted where it was most useful; but we are afraid that its exclusive use in so long a work as the present, will, from its appearance of pedantry, and still more from rendering it difficult to be understood without a constant reference to a glossary, only disgust many with it, and deter all from using it.

Of the three parts into which Dr Barclay has divided his treatise, the first is wholly a compilation; the second is partly original, and partly selected; and the third must be regarded as almost entirely new. Here we must revert to the threefold view, in which we remark Dr Barclay's work is to be considered. If the synonimous tables in the first part be looked on as an intended addition to our stock of information respecting the muscular system, they will probably be pronounced an unnecessary part of the work; but, if they be viewed as aids to the student, in perusing the works of the different writers on the muscles, and comparing them with the classical *historia muscolorum* of Albinus, (and in this light, they are evidently placed by Dr Barclay) their utility will be evident, and we cannot but applaud the patience and industry which have collected and arranged such a multitude of synonimes, and thus put the student in possession of matter, for which he often must have sought in vain among works which are seldom to be found except in public libraries.

The second part of the treatise should, we think, have been subdivided into two, as the table of the muscles, and the general observations, are not immediately connected with each other.

The table of the muscles, arranged according to the bones to which they are attached, that forms the first chapter of this part, is a valuable improvement on the similar but imperfect arrangements of Cowper and Winslow. To give a satisfactory description of this table would exceed the limits of an ordinary *critique*, and, without such a description a specimen would not be understood. It well deserves the attentive examination of the dissector and the surgeon, and affords many happy illustrations of the author's nomenclature. Some of the uses of this table are thus pointed out by Dr Barclay.

"The use of this table to the anatomist scarcely requires any explanation. On a cursory glance, it presents to his view a number of circumstances not easily remembered, and which, though always connected in nature, are not very often associated in the memory. It explains satisfactorily many of the sympathies that exist between the motions of distant parts connected by muscular attachments or functions: As, for instance, how pain, arising from a luxation of the humerus, should, upon motion, extend to the sternum, the back, and the loins; and how pain, arising from injuries of the loins, should be affected by motions of the humerus, when any powerful or extensive operation of the Latissimus dorsi is required.

"It may likewise be useful in suggesting hints about the modes of reducing bones after cases of luxation and fracture; about placing the parts in the most easy and natural position after reduction; about what motions should be avoided, what should be allowed, what should be left to the patient himself, and what should necessarily be checked by bandages, and how these bandages ought to be applied."

In the second chapter, we have the author's general observations on the organization of the muscular system, and on the blood-vessels, nerves, and absorbents connected with it. Here we meet with many of the facts which occur in Bichât and other writers on the animal economy, and this part of the work is evidently intended as a text-book for our author's pupils. Much of the matter of this chapter is however original, and we have remarked many new observations, especially on the difference between the right and left sides of the body, on the various hypotheses that have appeared respecting the nature of the vital principle, and on the nature and effects of irritability. From this chapter we shall extract the following paragraphs:

"The differences of function arising in the organs from a difference of substance and a difference of structure; from a difference in the veins, arteries, absorbents, and circulating fluids; from a difference in the cellular membrane and nerves, and a consequent difference of the vital influence—contribute to occasion those irritabilities which Harvey has denominated the *sensus proprii.* These sensus proprii, by a modern discovery, have been ascribed to *vitæ propriæ*: The vitæ propriæ are the functions personified; and though somewhat different, are yet somewhat akin to the *vis genitrix*, the *vis concoctrix*, the *vis medicatrix*, and the other *vires* of the old physiologists, who seem to have derived them from the Greek Δυναμεις, mentioned by Hippocrates, and which were the ministers of Physis or Nature. They succeeded in office to the ancient Genii, that at one time had presided in the organs, and that had been accustomed, when they happened to meet with judicial astrologers, to regulate their conduct by the influence of the stars.

" As the modern vitæ have all been reduced by the celebrated Bichât to two kinds, the *animal* and *organic*, the former distinguished chiefly from the latter by the functions, sensation, and voluntary motion; so the ancient Δυναμεις, the ministers of Physis, were classed by Plato under three souls, the *rational*, *animal*, and *vegetative*; a classification that, with little or no material alteration, was adopted by Galen, and by most of his followers.

" With a little more patience, they might all have been traced to a common source; for the truth seems to be, that all these functions, vitæ, faculties, vires, dynamics, or whatever be their names, originate principally from one cause, operating variously by various organs, and often itself operated upon by various causes, that in many cases, from the appearances of design and intelligence, seem to be under either the mediate or immediate direction of the Author of nature.

" As for the hypothesis that admits the existence of vital laws and vital phenomena without the existence of a vital principle, it is scarcely intelligible. Laws, strictly speaking, are but forms by which something is regulated: but as here there is nothing found in the hypothesis which appears to regulate these vital laws, and nothing vital to be regulated by them, with a strange inconsistency, these laws are considered as animated beings putting their own regulations in force. In this character, it is hard to perceive any difference between them and the old personified vires or dynamies. In short, the supporters of this opinion, instead of succeeding in their attempts to exclude entirely a vital principle, have inadvertently admitted a number; and instead of advancing any thing new, as they probably supposed, have certainly revived one of the most rude and antiquated notions in all physiology, though strangely disfigured by the difference of language in which it is expressed.

" As the vital principle is acknowledged to possess but limited powers; as the exercise of its powers is also limited by the nature of the organs, and the exercise of the organs by varieties of circumstances; as the organs themselves are all composed of the particles of food, and these particles but partially subjected to the vital influence—we can hardly imagine that such a principle would ever be able either to construct or preserve its system totally independent of external causes: To maintain, therefore, a regular intercourse with external causes, that may serve it as auxiliaries, and to avoid or repel those that are inimical to its operations, all its organs are found to be endowed with that kind or degree of irritability by which they are each peculiarly suited to their respective offices, and to the stimulants intended to act upon them.

"These irritabilities, which are modified by the state and nature of the organs, seem partly to depend on the regular exercise of the vital powers, and partly on the kinds of external causes that cooperate as auxiliaries: They depend chiefly on the vital influence in all living bodies that are found to possess a heart and a brain; the heart by means of an artery and its branches, and the brain by means of its crura and nerves, diffusing this influence through every organ that is near or remote: They depend less on this kind of influence where the size of the brain, or the brain and the force of the heart, are but small; as in all those animals where the temperature is low, and the circulation comparatively languid: They depend still less on this kind of influence where a heart and a brain appear to be wanting, and the duty is left merely to an artery, a spinal marrow, and their respective branches: Least of all on this kind of influence where nerves and arteries vanish from the sight, and where all nourishment is conveyed by absorbents opening from the surface; by an inverse ratio, in all these cases, they depend on external or auxiliary causes."

In the chapter *on muscular action*, we are presented with a series of propositions, demonstrating, on geometrical principles, the application of the doctrine of levers to the action of the human muscles. These propositions are in imitation of the theorems of Borelli, in his work *De Motu Animalium.*

We cannot, however, avoid regretting, that Dr Barclay had not treated this part of his work more methodically, and somewhat more fully. He should have perhaps considered his readers as altogether ignorant, or at least but very imperfectly acquainted with the principles of mechanical philosophy, and should have gradually led them on, step by step, from the simplest cases to those which are more complicated, and this should have been done in the plainest and most perspicuous language. We did not indeed expect, in a work on muscular motion, any discovery in mechanical philosophy, but we think that there was room for a popular application of its principles to muscular motion. Some of Dr Barclay's propositions are very neat and satisfactory; but others are deficient in elegance and perspicuity. Some demonstrations, equally simple and important with those inserted, are omitted, and some which are inserted would have been omitted with advantage. His very first proposition is particularly objectionable. Its enunciation is imperfect, and its demonstration incorrect; but besides, it is a very complicated case, and one which does not exist in nature. On the other hand, his diagrams for illustrating the effects of obliquity of insertion, on the power of muscles, are simple and well contrived.

These propositions had become necessary to the physiological student, because Borelli's book, however valuable, can seldom be perused during the ordinary course of a medical education, and no work on the elements of mechanical philosophy, with which we are acquainted, except one published by Dr Rutherford of Cambridge, in the middle of the last century, contains any application of the principles of the lever to the action of muscular fibres.

We come now to the principal part of Dr Barclay's work, in which he treats of the combined action of the muscles, and classes the muscles according as they cooperate in the motions of the head, the neck, the trunk, the atlantal and sacral extremities, the auricle and internal ear, the skin of the skull and face, the nostrils, the lips, the eye, the *basilar maxilla* or lower jaw, the tongue, and its appendages, the pharynx, the respiratory organs, the alimentary canal, the organs of generation, and the sanguiferous system. The arrangements in this part are entirely new, and the tables of cooperating muscles are for the most part very complete. The following extract, on the motions of the eye, will illustrate Dr Barclay's method, and may be regarded as a fair specimen of this part of the work.

"The motions of the eye are,
Locomotions
Iniad, and
Glabellad;
Rotatory motions
Coronad, and
Basilad,
on axes extending between the mesial and the temporal aspect;
Rotatory motions
Mesiad, and
Temporad,
on axes extending between the coronal and the basilar aspect;
And rotatory motions
Mesiad, and
Temporad,
on axes extending between the inial and glabellar aspect.

"The muscles by which these motions are performed, are the

	Situation.	*Direction of action.*
Rectus attollens,	Coronal,	Iniad.
Rectus depressor,	Basilar,	Iniad.

Rectus adductor,	Mesial,	Iniad.
Rectus abductor,	Temporal,	Iniad.
Obliquus superior,	Mes. coronal,	Glab. mesiad.
Obliquus inferior,	Tempor. basilar,	Glab. mesiad.

" The eye being everywhere imbedded in fat, except on the aspect where the cornea is situated, the motion *iniad* can be carried only to the extent in which the adipose substance is compressible. In this motion, the four *recti* act together in the double capacity of motors and directors, and the two *obliqui* in that of moderators; the *rectus attollens* resisting for the time the rotatory power of the *rectus depressor;* the *rectus adductor*, the rotatory power of the *rectus abductor;* and the *obliquus superior*, the rotatory power of the *obliquus inferior*. In the motion *glabellad*, the two *obliqui*, resisting one another's rotatory powers, become the motors; and the four *recti*, moderators and directors.

" In acting separtely, these muscles perform only a rotatory motion, when each of the *recti* is moderated by the *rectus* of the opposite aspect, and the one of the two *obliqui* by the other. In such motions, the *coronal rectus* is made to turn the pupil coronad; the *basilar*, basilad: the *mesial*, mesiad; the *temporal*, temporad; the *obliquus superior*, basilad and mesiad; the *obliquus inferior*, coronad and temporad; and as none of them can, in its separate motion, be moderated by any but its own moderator, it follows, that the four remaining muscles may act as directors; and that, therefore, the rotation of any one muscle may be variously combined with the rotatory motion of every other muscle, excepting that of its own moderator.

" When the two *obliqui* act in succession, and are not restricted by the directing forces of the *recti*, they each roll the eye on a different axis, extending obliquely between the inial and glabellar aspects; and when the four *recti* act in succession, the eye is turned round, so as to describe the circumference of a cone, whose base is glabellad, and whose apex is pointed to the inial aspect.

" By its six muscles, the eye, like the needle of the mariner's compass pointing to the pole, preserves the same relative position with respect to its object, whether the object be in motion or at rest. And hence it is, that instead of the eye moving in the socket, we sometimes see the socket moving round the eye, and the eye quite still, performing its functions: And hence it is, too, that when the eyes are directed to an object that happens to be moving from right to left, or from left to right, the one eye is seen moving mesiad, and the other temporad, at the same time; the one eye having for its motor its *rectus adductor*, and the other for its motor its *rectus abductor*. The correspondence, therefore, of the motions in the two eyes is only what arises from their being directed to the same object—it does not depend on what might be called corresponding muscles; it does not depend on any connection of the optic nerves in the *sella turcica*, as the optic nerves send not even the shadow of a branch to the muscles of the eye; and it does not depend on the rays of light striking parts of the retinæ that are similarly situated;—for, when the rays enter the pupils by the right or left, they fall on those parts of the retinæ that are respectively mesiad in one eye, and temporad in the other."

The most valuable chapter in this part, appears to be that which treats of the motions of respiration. This chapter occupies twenty-six pages, and affords a very full and satisfactory account of the mechanism of respiration. So much attention has, of late, been paid to the chemical phenomena of this function, that its mechanism has been nearly overlooked, but Dr Barclay's observations fully prove, that this part of the subject is nearly of equal importance, with that which treats of the changes induced by the mutual decomposition which the venous or *pulmonic* blood, and the respired air undergo. In the note to p. 524, Dr Barclay shews that the chemical phenomena of respiration have not escaped his notice, and that the opinion, lately so ably maintained by Mr Ellis, that the changes produced on the venous blood, are owing rather to exhalation than to absorption, had forcibly been impressed on his mind, by attending to the anatomical structure of the lungs.

> " But the change induced on the blood by respiration, (says Dr Barclay,) is probably owing more to exhalation than to absorption, for no artery exhales so freely as the pulmonic. A watery injection thrown into this artery, with a small force, will flow copiously into the bronchi, and without occasioning any thing like rupture in its smaller vessels; but whether the exhalation or not be the principal cause of change in the blood, pulmonic blood, when exposed to air through the medium of its vessels, is always observed to change its colour a great deal faster, while the exhalents continue to act with a vital energy, than when they act slowly and feebly as inanimate organs."

We shall here close our review of Dr Barclay's work, a work, which will be variously estimated, according as its readers are more or less interested in its general contents, and more or less attached to the new language in which it is composed. To the author's pupils, it must be peculiarly valuable, as enabling them to recapitulate, revise, and digest the substance of a considerable portion of his public lectures; while, to almost every class of medical readers, it will be of advantage, either as a complete and scientific work on the muscular system; or, at least as a book of reference, which will supersede the neccesity of examining a number of valuable, but scarce and expensive publications.

II.

II.

The Principles of Midwifery; including the Diseases of Women and Children. By JOHN BURNS, Lecturer on Midwifery, and Member of the Faculty of Physicians and Surgeons, Glasgow.—London, 1809. 8vo. Pp. 519.

WE already possess some excellent treatises on the principles and practice of midwifery; and, as this is a department in which no very important discoveries or improvements have very lately been made, we should have thought it at this time no very easy matter to usher into public, with any fair prospect of success, a new publication on the subject. All, however, that could be expected, in the present state of the science, to give a new interest to the subject, Mr Burns, equally experienced as a teacher and practitioner, has, by a judicious arrangement, by a faithful exposition of facts and observations, and by a methodical induction of the principles and practice of the art, from these fundamental truths, contrived to accomplish in the work now before us. It is divided into four books; the first, comprehending nineteen chapters, treats of the structure, functions, and diseases of the pelvis and uterine system, in the unimpregnated state, and during gestation; the second, of parturition; the third, of the puerperal state; and the fourth, of the management and diseases of children.—So that every subject, directly or indirectly connected with the practice of the accoucheur, is here brought into one connected view. This, indeed, is the great advantage which Mr Burns's work must be acknowledged to possess over all others, as a system or class-book. But what we are most disposed to recommend in this volume, is the pathological department, and the descriptions and treatment of the diseases of puerperal women and of children. A more copious, scientific, and judicious account of these diseases, is, perhaps, nowhere to be met with.

To enumerate some of these, in the order in which they are treated, will convey to our readers some notion of the value of this part of our author's labours.

1st, Diseases of Pregnant Women:

Febrile state; vomiting; heart-burn; fastidious taste; spasm of stomach and duodenum; costiveness; diarrhœa; piles; affections of the bladder; jaundice; coloured spots; palpitation; syncope; dyspnœa and cough; hæmoptysis and hæmatemesis; headach and convulsions; toothache; salivation; mastodynia; œdema; ascites; redundance of liquor amnii; watery discharge;

varicose veins; muscular pains; spasm of ureter; cramp; distention of the abdomen; hernia; despondency; retroversion of uterus; antiversion; rupture of uterus; abortion, and treatment of pregnant women; uterine hæmorrhage; false pains.

2d, Of the Puerperal State:

Treatment after delivery; uterine hæmorrhage; inversion of the uterus; after pains; suppression of the lochia; retention of part of the placenta; strangury; spasmodic and nervous diseases; milk fever; miliary fever; inflammation of the uterus; peritoneal inflammation; puerperal fever; swelled leg; paralysis; mania, &c.

3d, Diseases of Children:

Congenite; surgical diseases; diseases of dentition; cutaneous diseases, viz. strophulus, lichen, intertrigo, crusta lactea; anomalous eruptions; pompholyx; pemphigus; miliaria; prurigo; itch; herpes; itchthyosis; psoriasis; impetigo; pityriasis; porrigo; scabs; boils and pustules; petechiæ; erysipelas and erythema; excoriation; ulceration of gums; erosion of cheek; aphthæ; syphilis; skin-bound; small-pox; cow-pox; chicken-pox; urticaria; measles, and roseola.

Hydrocephalus; convulsions; croup; hooping-cough; catarrh; inflammation of pleura and stomach; vomiting; diarrhœa; costiveness; chorea; marasmus; tabes mesenterica; worms; jaundice; diseased liver; fevers.

A systematic work like this, embracing so great a variety of description, does not admit of any more extended analysis, or criticism; we shall, however, to enable our readers to form some judgment of the manner and style of Mr Burns, add a very few extracts.

"Chlorosis succeeding to abortion, laborious parturition, or fever, is often attended with symptoms resembling phthisis pulmonalis. In many instances the pulse continues long frequent; there is nocturnal perspiration, considerable emaciation, with cough and pains about the chest, and yet the person is not phthisical, she suffers chiefly from debility; but if great attention be not paid to improve the health, the case may end in consumption; and hence many consumptive women date the commencement of their complaints from an abortion, or from the birth of a child, succeeded by an hæmorrhage. In chlorosis, the symptoms are induced, not by previous pulmonic affections, but by some other evident cause of weakness; the pulse, although frequent, is not liable to the same regular exacerbation as in hectic; a full inspiration gives no pain, and little excitement to cough; the person can lie with equal ease on either side; the cough is not increased by motion, nor by going to bed, but is often worst in the morning, and is accompanied with a trifling expectoration of phlegm. It is not short like that excited by tubercles, but comes in fits, and is sometimes convulsive; whilst palpitation, and many hysterical affections, with a timid and desponding mind, accompany these symptoms. The bowels are generally costive, and the person does not digest well.

"In chlorosis attended with symptoms resembling phthisis, it is of considerable utility to administer, occasionally, a gentle emetic, and at the same time, the bowels must be kept open. Myrrh combined with the oxyd of zinc, is, I think, of approved efficacy; and the ammonia given in the form of an emulsion, with oil, very often is effectual in removing the cough. A removal to the country, and the use of moderate exercise on horseback, will contribute greatly to the recovery. The diet ought to be light but nourishing. In many cases, milk agrees well with the patient, but it is not necessary to restrict her from animal food. Pain in the side may be removed by the application of a warm plaster; and if the cough be troublesome the squill may be used as an expectorant, and an opiate should be given at bed-time. If the skin be permanently hot, or irregularly hot and cold, without weakening perspiration, the tepid bath is of service, or small doses of saline julep may be given. Should the person be of a phthisical habit, and the symptoms increase or continue obstinate, it will be proper to remove her to a mild climate, or the southern part of the island. Emmenagogues are either useless or detrimental." p. 100-1.

After having described the operation of embryulcio, the cases requiring it, and the necessity of breaking down the cranium and separating the bones, in cases of extreme deformity, Mr Burns continues:

—"We have then only the face and the basis of the skull, and if the pelvis will allow these remains to pass, then the crotchet can be used. I have carefully measured these parts, placed in different ways, and entirely agree with Dr Hull, a practitioner of great judgment and ability, that the smallest diameter offered, is that which extends from the root of the nose to the chin. For in my experiments, after the frontal bones were completely removed, this did not in general exceed an inch and a half. It is, therefore, of great advantage to convert the case into a face presentation, with the root of the nose directed to the pubes. The size of the crotchet, which ought to be passed over the root of the nose, and fixed on the sphenoid bone, must, however, be added to this measurement. I never have yet been so unfortunate as to meet with what may be considered as the smallest pelvis admitting of delivery, per vias naturales; but I would conclude, that wherever the pelvis, with the soft parts, measures an inch and three quarters, or if the head be unusually small, an inch and a half, the crotchet may be employed, provided the lateral diameter of the aperture in the pelvis be three inches, or within a fraction of that, perhaps two inches and three quarters, if the head be small or very soft; and the operation will be easy, as we extend the diameter of the pelvis, beyond what may be considered as the minimum." p. 264-5.

The cutaneous diseases of children, so numerous, and often so difficult to discriminate, are very fully described by Mr Burns, under no fewer than thirty-seven different sections. We select the following excellent account of a very dreadful disease affecting the face and mouth:

—"Another corroding disease begins in the cheek itself, or the lip. It commences with some degree of swelling, which is hard, and firm, and shining. It generally begins on the cheek, which becomes larger than the other, and the upper lip becomes rigid, swollen, and glossy. On some part of the tumefied skin, generally on the cheek, we observe presently a livid spot, which ulcerates and spreads, both laterally and downwards. Being generally situated near the mouth, it soon reaches the gums, and even the tongue partakes of this disease, which is of horrible aspect. We often find a great part of the upper or under lip destroyed, perhaps only a flap or portion of the prolabium left, all the rest being eaten away. The gums are foul, the teeth loose, the tongue thickened, partly destroyed, and lying so close on other diseased parts, that we cannot say what is tongue or what gums, except by the child moving the tongue, and the mouth itself is filled with saliva. The ulcer is foul, shews no granulations, but appears covered with a rough irregular coat of brown lymph. The surrounding parts are somewhat swelled; near the ulcer they are hard and red, farther out on the cheek they are paler, and have more of an œdematous look. These local appearances are accompanied with emaciation and fever, and the child is either restless, or lies moaning in a drowsy state. This disease often proves fatal, sometimes indeed the parts cicatrize, or the patient recovers after an exfoliation of part of the jaw-bone. The ulcer is best managed with stimulants, such as diluted muriatic acid, solution of nitrate of silver, camphorated spirits of wine, tincture of opium, &c.; but sometimes it is necessary to give these up for a carrot, or fermenting poultice The bowels are to be kept open, the strength supported by milk, soups, and wine, and acids with ripe fruit given liberally. Before ulceration takes place, the best application is camphorated spirit of wine, or we employ friction, with camphorated liniment. A course of gentle laxatives is useful." p. 375-6.

In closing our brief account of this very useful book, we must not overlook the many instructive notes and references to cases and observations, which Mr Burns has appended to his work, by way of illustrating his text, and enabling his readers to prosecute the study of the subjects to which these refer.

III.

III.

Practical Observations on Strictures of the Urethra; with Cases Illustrative of the Comparative Merits of the Caustic and Common Bougie: Also, Remarks on Fistula in Ano, and an Improved Method of treating Tinea Capitis; with annexed Cases. By THOMAS LUXMORE, Surgeon-Extraordinary to the Prince of Wales, Surgeon to the Eastern Dispensary, &c. &c. London, 1809. 8vo. Pp. 215.

IN our several reviews of the works of Mr Home, Mr Whately, and Dr Andrews, we have, in acknowledging the efficacy of the caustic bougie, and the great merit of Mr Home's labours, taken occasion to reprobate its too general adoption, to the exclusion of the common bougie, a much safer instrument in general hands, and one certainly adequate to the removal of by far the greater number of cases of stricture met with in the common run of practice. The caustic bougie should, in our opinion, be preserved as an instrument of reserve, for those more severe or obstinate cases which do not admit of the common bougie to pass through them, or which, on trial, have been found to resist its powers.

We cannot, therefore, but approve the general design of Mr Luxmore's publication, which is intended to revoke the attention of surgeons to the simple bougie, and to shew, from the result of his own experience, that, by means of it alone, a great proportion of strictures may be easily and speedily cured. So much, indeed, has been said and written of late about the armed or caustic bougie, that we are in danger of forgetting, that, from the time of Daran to that of Mr Home's fame, the common bougie had acquired, from its general success, a high and deserved reputation; and that the cases to which it is not applicable, or in which it has been found to fail, are comparatively few. Mr Luxmore opens his subject with some general observations on the structure of the urethra, on the nature, causes, and consequences of stricture, and modus operandi of the bougie; but in these there is nothing very novel or important.

Mr Home, he observes, " has with much candour pointed out the advantages and disadvantages which the operation of caustic entails. He has shewn, that fever and inflammation are its consequences, and often to such a degree, as to endanger the life of the patient; that the application of the caustic does not always succeed in effecting a permanent cure, and that other means must be resorted to in order to second its effects; as, from the employment of the caustic, spasmodic strictures often arise and continue, so as to form a new disease. These are certainly strong objections to the general use of caustic in these cases, and when admitted by one who has had extensive opportunities of forming a correct judgment, they are unanswerable. I do not, however, mean to say, that the application of caustic is always unavoidable, and that strictures occur under particular circumstances, which defy the success of any other means. Happily, however, these cases are but few, and only form exceptions to a general rule. When they arise, Mr Home's method is certainly preferable to all others, as his instrument is improved as far as possible, for the precise local application."

The common plaster bougie is that which Mr Luxmore, very justly we believe, prefers to all others. It is pretty generally understood to operate on the principles of dilatation, and of inducing absorption. The size of the bougie must, of necessity, be proportioned to the stricture. No surgeon, therefore, we apprehend, would think of trifling with a bougie smaller than one just sufficient to pass within the stricture; nor could he at first employ one larger than this, with any great chance of success. We know of no other maxim than this, and certainly do not acknowledge that one which Mr Luxmore would pawn upon the profession, that he might enjoy the easy task of refuting it. "The first error into which surgeons have generally fallen in the use of the bougie, is selecting one of too small a size. This is the practice of some of the most eminent of the profession; the maxim laid down by them is, that the cure cannot commence with too small a bougie." Surely, if a moderate-sized bougie can be got to enter the stricture, this, or a larger one, is what we should begin with; one, certainly, which will fill and stretch the stricture, and not a smaller. But if the stricture be so considerable that the smallest size can hardly be made to enter it, we must begin, our treatment with this small one. It is impossible to establish, as Mr Luxmore would pretend to do, any very determined rule in this respect. In this way Mr Luxmore, having paraded a few successive shadows, gravely lays down, as something new and important, the following as the principles on which he proceeds in the successful treatment of strictures:

"1*st*, That in every case of stricture, the dilatation made should be extensive.

"2*d*, That the dilatation should not at any time be carried farther than the feelings of the patient will allow.

"3*d*, That the continuance of the dilatation, at each application, should be short, not exceeding, at most, a minute or two, till the urethra becomes accustomed to the use of the instrument.

"*4th*, That the stricture being once passed by the bougie, the catheter or sound should be substituted to complete the cure, as instruments which admit of more equal pressure."

Now, of these important principles, it appears sufficient to remark, that there is no great novelty in the second; and that the feelings of the patient will also prove a better guide to the surgeon than the precise rule inculcated in the third. In Mr Luxmore's cases, we accordingly find this rule very generally lost sight of, the bougie being allowed to remain a much longer time, and the catgut-bougie, or catheter, once passed, for the whole night. Indeed, this rule of abandoning the plaster bougie so soon as it has passed the stricture, and completing the cure by means of the catheter and sound, is the only practice peculiar to Mr Luxmore, who, by the bye, not very consistently, objects to the metallic bougie.

Tinea Capitis.—The scope of our author's observations on this very troublesome disease is, to shew its connection with general constitutional derangement, and the necessity, therefore, of combining, with the local treatment, remedies for the restoration of the constitutional health.

Of the disease, he notices but two species, distinguished as the dry and the moist. The predisposing causes, he thinks, are scrofulous diathesis, poorness of living, and want of cleanliness: the topical, or exciting causes, are filth and infection.

The subjects of the disease are also of opposite constitutions.—In the first, the lymphatic and glandular systems are already affected with scrofulous inflammation and induration, the skin is dry and scurfy, and the digestive and chylopoetic functions are deranged. In treating tinea capitis in such constitutions, he premises an emetic, he gives occasional purgatives, a combination of calomel, rhubarb, and emetic tartar twice a-week, and, in the intermediate days, the infus. gentian. c. aq. kali ppt. warmed by an aromatic; and afterwards the tinct. ferri amm. The abdomen is anointed with the weaker mercurial ointment, with the view of farther increasing the action of the viscera.—The head is shaved, washed, and various topical applications are made to the diseased parts.

In other children affected with tinea, the glandular system is healthy; but the bowels are loaded and torpid, and the system in a plethoric state. To such patients, instead of tonics, he administers calomel and tartar emetic every night at bed-time, and twice a-week brisker purgatives of calomel, scammony, and jalap.

We are presented with no fewer than twenty-one formulæ, recommended by Mr Luxmore for the cure of tinea capitis.—His experience vouches for their efficacy, but we cannot recommend them as either elegant or scientific.

Sulphur ointment, the tar and citrine oinments, are daily employed in this disease; Mr Luxmore, to make sure of the business, mixes all three together.

Subacetite of copper, sulphate of zinc, sulphate of iron, and nitrate of silver, may be all very useful applications; solutions of some of them, we know, are active and efficacious. Lime-water, too, is no despicable remedy; and therefore probably it is, that Mr Luxmore dissolves all these active metallic salts in lime-water.

Fistula in Ano.—The observations given under this title shew the necessity of correcting constitutional disease; for, if the means directed to this be neglected, the most perfect operation, and subsequent dressings, will often prove unsuccessful. "In the treatment of this complaint, much attention should be paid in endeavouring to obviate its cause, as well as in the employment of local means, to induce a healthy disposition in the parts, without which a cure cannot be expected."

Scrofula, syphilis, *erysipelatous disposition*, and a diseased state of the liver, in consequence of excessive drinking, are the principal causes noticed by our author as influencing the surgical treatment of fistula in ano.

IV.

An Essay on the Torpidity of Animals. By HENRY REEVE, M.D. Member of the Royal College of Physicians of London, and Fellow of the Linnæan Society. London, 1809. 8vo. Pp. 152.

IN an inaugural dissertation de Animalibus Hyeme Sopitis, published by Dr Reeve at Edinburgh in 1803, he pledged himself to prosecute, at some future period, the interesting inquiry which he had then so successfully begun; and the essay now before us is the acquittal of this promise. The principal facts relative to the subject, which he has been enabled to collect from the best authorities, and some original observations, are here brought together into one connected view; and from these, the series of changes which the different species of animals undergo, during their hybernation, and the general causes which induce them to submit to that state, are deduced. Adhering with great steadiness to the principles of the inductive method, Dr Reeve does not appear to have been swayed by any preconceived hypothesis, nor to have hazarded any sweeping theory, to supply what is yet undiscovered, or to connect phenomena which yet remain disjointed. With becoming caution, he has contented himself with drawing such general conclusions, or making such remarks, as the facts stated seemed to authorize him to infer. If therefore, in a subject of great complexity, where much yet remains to be observed, he has not reached the end of the labyrinth, neither has he broken the clue, nor thrown obstacles in the way of others.

In this state of the inquiry, it cannot even be expected, that the whole of the ingenious author's remarks shall appear to others perfectly consistent and conclusive. Where the chain of facts continues interrupted, conclusions universally satisfactory are not attainable; and something like unsanctioned theory will obtrude itself.

The number of animals which become torpid at the approach of winter is very great. Most of these, as the amphibiæ or oviparous quadrupeds, insects and worms, are distinguished by the peculiar organization of their respiratory organs, from the more perfect animals, which seem incapable of hybernation. But there are other hybernating animals, viviparous quadrupeds, as the marmot and dormouse, which have a double heart, double circulation, and perfect lungs, and to whom perfect respiration in any other than the state of torpor is as necessary as to man, and cannot be suspended for any time, without irreparable injury to life. The phenomena, therefore, which attend torpidity in these, must appear much more surprising, than in insects and worms, or in oviparous quadrupeds, with membranous lungs, and a single heart, and whose respiration can be suspended for a longer time, without injury to life.

The phenomena of torpidity, as deduced from a great variety of authenticated observations, are shewn by Dr Reeve to be the following:

" 1*st*, The temperature of hybernating animals is diminished." p. 12.

" 2*d*, The circulation of the blood becomes slower." p. 17.

" 3*d*, The respiration is less frequent, and sometimes, entirely suspended." p. 21.

" 4*th*, The action of the stomach, and digestive organs is suspended." p. 25.

" *5th*, The irritability and sensibility of the muscular and nervous powers are diminished and suspended." p. 30.

We shall add a very few of the observations on which these propositions are founded.

1st, The internal temperature of the active and healthy dormouse, is 101°, of the torpid 67 and 73.—In animals of the same tribe in Russia, Pallas found the temperature 103 during summer, and 84 in its torpid state. The temperature of marmots, is 101°, 102°, and when torpid 43°, and even lower.

2d, The heart of the bat, in summer, beats a hundred pulsations in the minute, and as they are growing torpid sixty; and as the torpor increases, fourteen beats have been distinctly counted.

3d, Torpid bats cannot be observed to breathe at all. They have been placed in the exhausted receiver without perishing. Torpid marmots and dormice were confined by Spallanzani in hydrogen and carbonic acid gas for hours without injury. Had they breathed, they must have perished in a few minutes.

4th, Mr Hunter introduced food into the stomach of lizards going to hybernate, and upon opening them at different periods, the aliment was found unaltered. Similar observations have been made by Pallas and Spallanzani.

5th, Marmots are not roused from their torpid state by the electric spark. They are insensible to pricking their feet and nose. Bats are equally insensible. Wounds have been inflicted, and limbs broken, without the mutilated animals expressing any signs of pain.

The most surprising of these phenomena, and that perhaps on which all the others depend, is the suspension of respiration; a function, which, under all other circumstances, is known to be so constantly essential to the existence of life. Were hybernation a property of cold-blooded animals only, the fact might seem less difficult, as the variety observed in the structure of their respiratory and circulating systems would then connect and explain it. But there is nothing to our apprehension, in the structure or ordinary functions of the hybernating viviparous quadrupeds, which can throw light on this subject. The devision of the superior cava into two trunks, or the larger size of the intercostal arteries and veins, or the number and size of the thymus gland, remarked in these, cannot help us one step in solving the difficulty; for these animals, when active, seem as incapable of surviving suspended respiration, as other quadrupeds not having the faculty of hybernation.

The first thing done, however, by these animals, when about to become torpid, is to assume a position, or seek situations, in which they cannot freely respire. They roll themselves up into the form of a ball, and bury themselves under ground, or otherwise cover themselves up from the access of air. Nay, it has been observed by Pallas, of a hamster, that, when inclosed in a box filled with earth and straw, it never became torpid, however great the degree of cold to which it was exposed, unless the box was buried four or five feet under ground, and earth thrown over it to exclude the access of the air.

We do not think the inquiry much advanced by the following observation of our author, even could we admit the truth of the distinction: " The most obvious distinction between those animals which hybernate, and those which are able to resist the action of cold, is the difference of their internal temperature, and the circumstances connected with that difference. While the latter possess a temperature much higher than the medium in which they are placed, and in some measure independent of it, the former differ from the surrounding medium only a few degrees, and are so much influenced by it, as to vary with all its variations."

It is true, indeed, that when hybernating animals are becoming torpid, their temperature sinks, and that when their torpidity is perfect, their temperature is comparatively very low, though still above the medium in which they are placed. But when active and healthy, we do not perceive any such distinction. On the contrary, their temperature exceeds that of healthy man, and approaches that of birds, the hottest blooded animals, and whose perfect respiration, Dr Reeve has produced, as one, amongst other arguments, against the supposed hybernation of swallows. The temperature of the active dormouse is 101° ; of another hybernating animal of the order glires, 103°, of marmots and bats, 101°, 102°. How, then, can any distinction be founded on the difference of internal temperature observed in these and non-hybernating quadrupeds ? or how can it be affirmed, that the temperature of the former differs from that of the surrounding medium but a few degrees ?

In their active state, respiration, and the consequent production of animal heat, seem to be carried on as perfectly and independently as in those animals not subjected to torpidity. When they are assuming the torpid state, and their respiration is slow and languid, then indeed their temperature sinks ; and when respiration is imperfectly performed, and at last altogether impeded, we are not surprised that their temperature differs from the surrounding medium only a few degrees. The wonder now is, how it is supported so much above it? The internal temperature of torpid dormice being 67° and 73°, and of another torpid animal, according to Pallas, 84°; temperatures greatly above the cold of a Russian winter.

Diminished temperature and confined air appear to be the first causes of torpidity. " Diminished respiration is the first step in the series of actions which accompany the state of torpidity. Confined air and intercepted breathing alway precede the phenomena; the animal retires from the open atmosphere into some cavern or hole under ground; his mouth and nostrils are brought into contact with his chest, and, enveloped in fur, *he falls into a profound sleep, and becomes cold and insensible.*"

This account we believe to be perfectly just, and supported by all the phenomena. And we wish it to be particularly remarked, that the profound sleep, coldness, and insensibility, are posterior to the suspension of respiration. Prior to this, however, we must conclude, that a general state of diminished irritability is produced throughout the nervous and muscular systems, in consequence of the action of the external cold.

" Whatever may be the precise nature of actions induced by cold upon hybernating animals, the nervous system seems in the first instance to be affected, and the equilibrium which, in health, subsists between the nervous and muscular powers, is then destroyed."

Here, however, we begin to be perplexed by some facts and observations, the truth of which must be acknowledged, though the conclusions become somewhat inconsistent.

—" Neither the lungs, the heart, nor any of the abdominal viscera, nor the nerves, have any influence upon the torpidity of frogs, salamanders, and snails, because they are equally affected by cold and heat in winter, after being entirely deprived of those parts, and even after the brain and spinal marrow are destroyed.

" The cessation of muscular action seems owing to the lowered temperature of the muscles themselves, because, when the transmission of nervous influence is prevented by dividing the nerve and destroying the brain, the irritability is suspended and recovered exactly in the same manner by the operation of cold, as in the ordinary state of torpid animals. The loss of motion and sensation, therefore, is owing to the diminished irritability of the muscular fibres, and that again is caused by the action of cold, and by suspended respiration; the capillaries of the vascular system appear to become contracted by the loss of animal heat; and this diminution always begins at the surface of the body, and gradually increases to the centre, as observed in examples of numbness from cold. and in applying the thermometer to different parts of animals, whilst they are gradually becoming torpid."

Now, we cannot help thinking, that Dr Reeve has drawn this conclusion too broadly. For, although the irritabiltiy of the muscles of mutilated and decapitated frogs, can be for a while diminished or destroyed, and restored at pleasure, by the varied application of cold and heat, yet surely there is a great difference between these experiments and the torpidity of the entire animal. The frogs survive these experiments at most but a few hours; their natural torpidity may be prolonged, without injury to life, for years together. Besides, is not this inference somewhat inconsistent with that which we have before quoted, with regard to the influence of the state of the nervous system, on the phenomena observed in hybernating animals? And again with the following statement?

> " The remote causes of torpidity in animals, induce directly or indirectly a periodical debility in the vascular system, which debility is connected with an alteration in the crasis of the solids and fluids, and in the action of the nervous system."—" The nervous system," he continues, " whose energies depend so much upon the mechanical and chemical effects of the circulation, partakes of the affection of the vascular system, and is perhaps one of the most immediate means of diffusing the influence of that affection over the rest of the body."

The truth appears to be, that the facts are not yet sufficiently analyzed to enable us to separate these different effects of the remote causes of torpidity, or to arrange them in the sequence of their occurrence. " The effects of low temperature on the respiration, on the circulation, and on the muscular and nervous powers," it is very justly observed by our author in the beginning of this investigation, " are so simultaneous, or so closely connected together, that it is difficult to attribute to any one the influence resulting from a strong action upon them all."

Besides the influence of cold, there is great reason to consider want of food as a principal remote cause of torpidity. It has been said, indeed, that hybernating animals become very fat before assuming the torpid state. But Spallanzani observed, that fat and lean dormice were equally susceptible of the action of cold. And it seems fully agreed, " that at the seasons in which hybernating animals become naturally torpid, their supply of food is cut off; and that, by feeding them regularly in the house, their propensity to hybernate has in some instances been obviated." It has been disputed, whether torpidity is merely an accidental habit, or a natural propensity of these animals? The question is argued with great acuteness by our author, and he concludes, that it is a natural propensity or instinct of those animals which are known to hybernate, always understanding by the term instinct, " a predisposition for certain actions when certain sensations exist."

Another question of considerable importance arises out of the preceding. Can other animals besides those which naturally and periodically hybernate, assume occasionally the torpid state when exposed to the strong action of similar remote causes? This supposition Dr Reeve is inclined to deny. The examples of sheep living for weeks under drifts of snow, and some wonderful cases related, of persons continuing asleep for seven or fourteen days, apparently from the influence of fear and anxiety, and other causes which tend to weaken the vital powers, do not strike him as applicable to the question.

"I have read accounts of the Swiss peasants being frequently buried in their huts by an avalange, and after remaining under the snow for a considerable time, having recovered by the use of proper means. But I can discover no satisfactory evidence of such instances having really happened. From one narrative published, it appears, that the poor wretches were in constant dread of being starved; but I never could learn from any body in Switzerland, that a similar circumstance ever occurred, though I have frequently been told of men being lost in snow on the mountains, and that when found, several months after they had disappeared, their bodies did not shew the least signs of putridity, the cold having prevented any sensible decomposition.

"Though there are some singular histories in medical records which may appear to favour the supposition that man may become torpid under certain circumstances, yet we have the most positive evidence, that no such state was produced by causes which in other animals strongly predispose to it.—Dr Currie, in a very interesting account of the remarkable effects of a shipwreck on some mariners, mentions that these unfortunate men remained twenty-three hours on the wreck, and of fourteen, the original number, eleven in the end recovered: they were exposed to the air and to the sea water, the temperature of both of which, as nearly as could be guessed, was from 33° to 35°; and though exposed to such severe cold for so many hours, without any sort of food, or any liquor to drink, none of them were drowsy, not did sleep precede death in any of those men who perished.

"When we reflect how wide the difference is between man and other animals, especially in what regards their adaptation to climate, it will readily be admitted, that the arguments from analogy are fallacious; and in conjecturing that all animals, even the human species, might be rendered torpid with safety, there is danger of falling into that error which supposes events that do not exist" p. 112.

"If mankind were not exempt from that law of nature which forces such numerous tribes of the inferior animals to become torpid, we should have found it exemplified in some of the situations in which men have been placed, either by accident or by the common course of things. No allusion is made to so singular an event in the physical history of our species;

cies; and therefore we may conclude that it has never occurred, and is inconsistent with the established laws of the human frame.

" It may be objected to this conclusion, that mankind are liable to suspended animation from drowning, or breathing noxious gases, and are sometimes restored to life after being apparently dead. The facts, however, connected with submersion, are not irreconcilable with what has been already said concerning torpidity. There is an essential difference between the two cases. I consider drowning or suffocation as a case of syncope, produced by certain causes acting upon the centre of the system, and influencing the remote parts: whereas torpidity from cold first affects the sentient extremities of the nerves, and is propagated gradually to the centre. The change which takes place in the blood, and in the air in the lungs, is necessary for the support of the muscular action of the heart; and when that action has ceased, provided the cessation has not been for any long time, it is capable of being restored by inflating the lungs with atmospherical air or oxygen gas.

" Death takes place in drowning from the exhaustion of the irritability of the heart, probably in consequence of some change taking place in the muscular and nervous fibres of that organ, from the sudden loss of that stimulating power which the blood acquires in the lungs. In these instances, death comes on without the temperature being much reduced. Diminished temperature, therefore, is not the primary cause of suspended animation in submersion, or breathing carbonic acid gas: if that were true of drowning, as it is of torpidity, animals could not be drowned in a temperature so high as, or higher, than their own.—The great influence of atmospherical air on the action of the heart, shows the importance of inflating the lungs as the first step towards the recovery of drowned persons, whilst the loss of irritability must be attempted to be restored by communicating heat and tension to the faint and exhausted system.

" In all organized beings, the final cause of respiration is the same: but the organs by which this function is carried on are exceedingly varied; and it is curious to observe, that the more perfect respiration is, the more concealed are the organs which perform it, consequently less likely to be influenced by changes in the temperature of the atmosphere. Birds, whose respiration is so perfect, and whose temperature is so high, that I have ventured to remark that they never become torpid from cold, have the air conducted not only into their lungs, but into the cavities of some of their bones. Their respiratory organs are very different from those of oviparous quadrupeds, which constitute the most numerous class among hybernating animals." P. 119-123.

There is no part of Dr Reeve's speculations which has more perplexed us than these statements, and his reflections upon them. Not that we are disposed to maintain, that man and other animals have the faculty of occasional hybernation; but that we cannot forget, that the action of cold has induced in these a degree of torpor, attended with phenomena strongly resembling those which take place in hybernating quadrupeds. Dr Reeve, in a former part of his work, has himself given another but contradictory view of this subject, in so far as relates to man at least, which appeared to us to prove, as far as any thing can prove, that the action of cold has in many instances produced a very complete, *and yet recoverable*, state of torpor in man.

> " The effect of cold on our nervous system is shewn by the tendency to sleep produced by exposure to a very cold atmosphere in certain situations. *This is very different from natural sleep, and nothing will prevent its taking place, but being removed to a higher temperature;* nor can the propensity sometimes be resisted, although the person is well aware of the fatal consequences of indulging it."

After quoting the well-known instance of Dr Solander, he continues:

> —" This curious fact is still farther corroborated by an interesting account of the action of cold upon the French soldiers, in their passage over the Alps in the memorable campaign of 1795. The *comatose state*, the *loss of sense* and *motion* arose from the direct operation of the cold air upon the men, after considerable fatigue and exhaustion; and what shews incontestibly, that the nervous system was affected, and not the circulation, is, that all those who were fortunately recovered by medical aid, had none of their limbs injured by that species of mortification or congelation, so well described by the French writers." p. 58-59.

This torpor, it is true, induced by the action of cold on our own species, if not soon obviated, terminates in death, whereas, the torpor of hybernating animals is prolonged for months, and that of the amphibiæ, and of insects, may be prolonged much longer without injury to life. In this, therefore, there is observed a material distinction. Nevertheless, we must admit a great similitude in the effects of cold on all animals, and allow that a very perfect torpor is produced by the influence of reduced temperature even on man.

In selecting those more difficult and doubtful parts of the subject, we have necessarily left unnoticed a great many excellent observations, which are given by our intelligent author in his 3d and 4th sections, on the variety of temperature in different classes of animals, on sleep, and on the application of cold in diseases.

We shall now close this article with the following philosophical reflection of our author, as exhibiting a general view of the different parts of his subject.

> " In tracing back the phenomena of hybernation, we cannot help ing struck with the great influence of three principal functions, respiration, perspiration, and digestion; besides the action of the nervous system, which it is impossible exactly to estimate or describe."

"Nothing can be more admirable than the result of forces constantly varying and continually balancing each other, which are observed every moment in the animal economy, but particularly in animals under the influence of cold.

"Respiration, by producing in the lungs, and probably in other parts of the system, a slow combustion of the hydrogen and carbon contained in the blood, occasions a disengagement of caloric absolutely necessary for the existence of animal life. Perspiration facilitates the disengagement of some portion of carbonic acid, and perhaps some other noxious matter, by giving out perspirable matter to the surrounding air, and prevents, at the same time, the accumulation of any excess of heat:—Digestion furnishes the blood with water, hydrogen, and carbon, and not only restores to the animal machine what it loses by perspiration and respiration, but afterwards rejects what is hurtful or superfluous.

"This is what takes place in the ordinary state of the animal economy; but when the external circumstances are varied, the resources are equally multiplied, and the equilibrium is still preserved. When the two faculties of sensation and voluntary motion are suspended, they influence all the collateral functions. If an animal is reduced to a state of inaction and repose, the respiration becomes slow, and the circulation likewise; it consumes less air, exhales less from the lungs and skin, and consequently has less need of nourishment. If it be roused to great exertion, the respiration is accelerated, the consumption of air is greater, the exhalations are more considerable, and consequently a larger supply of food is necessary to repair what is expended. In this case, if the equilibrium cannot be kept up, disease and death is the consequence. Man in this respect is far superior to all other animals; he can live in all temperatures, and in all climates; his functions are more capable of resistance to external circumstances, and his system triumphs where others yield."

V.

Observations sur L'Anguille Electrique du Nouveau Continent,—Voyage de HUMBOLDT *et* AIME' BONPLAND. Deuxieme partie. *Observations Zoologiques.* A Paris, 1807.

SOME of these observations are curious, and still interesting. But it cannot be doubted, that, had our philosophic traveller been acquainted with the invention of Volta, the theory of electric tension produced by the simple contact of heterogeneous substances, and the many brilliant discoveries which have since been made in this department of physical science, he would have profited still more by the opportunities he enjoyed during his residence in South America, and, by a more varied and extended course of experiment and observation, arrived at the most satisfactory conclusions.

His observations seemed at first to confirm the opinion with which he set out, that the phenomena of electric animals were referable rather to a peculiar fluid or energy than to the galvano-electric. And it seems to be only since his return home, when he learned the progress the science had made during his absence, that his doubts vanished, and that his anomalous observations appeared reconcileable with the general laws of electricity.

The memoir before us is at once desultory, and, for the information it contains, somewhat diffuse. It shall be our business for the present, without exactly following our author step by step, to lay before our readers a very brief account of the most important facts observed, whether they contradict or agree with the experiments of others.

The terror and dislike which the Indians shewed to encounter the shock of the gymnotus, opposed an insurmountable obstacle to the wishes of our author, to have live fish brought to his lodgings at Calabozo, so that, after various disappointments, he was reduced to the necessity of repairing to the pond where the gymnoti inhabit, to assist at the fishing, and to make his observations on the spot. He was accordingly conducted, by a party of Indians, to Caro de Beza, a stagnant muddy pond of water; and there, the scene which ensued no less surprised than entertained our travellers; for the Indians began their preparation for catching the gymnoti, by driving about thirty half-broken horses and mules into the water, the banks of which they guarded, and then, by means of their cries, their poles and harpoons, endeavoured to prevent the retreat of the horses, reluctantly forced to enter the pool. The intention of this stratagem, it seems, is, that in the battle which ensues between the gymnoti and the horses, the former, by the repeated discharges of their electric organs, may so far exhaust the power of their shocks, as to be afterwards more safely and easily caught and dragged on shore.

Accordingly, no sooner had the cattle been driven into the water, than the gymnoti, enraged at the intrusion, began hostilities, by discharging their batteries through the breasts and bellies of the enemy, with such frequency and force, as soon completely to overpower both horses and mules. All appeared stunned and alarmed; some fell down, and often disappeared for a while beneath the surface of the water. Two were fairly drowned; and some, who in spite of the vigilance of the bye-standers made their escape, sunk down on the bank, enfeebled and benumbed.

When the battle had continued about a quarter of an hour, the eels became in their turn exhausted, and their electric strokes more and more feeble, while the cattle, sensible of the weakness of the enemy, recovered from their panic, and renewed the combat, till the gymnoti fled before the horses, and approached the banks, where they were easily seized and dragged on shore by the line and harpoon.

The electric stroke communicated by a gymnotus in full vigour, is sufficiently powerful to stun the sensibility and paralyse the muscular powers of a horse; and such a stroke, passed through the belly and chest, would, in the opinion of our observer, be sufficient to kill a man. The stroke received by him from the comparatively exhausted fish, when first dragged on shore, exceeded in force any he had ever experienced from a large Leyden phial completely charged. On another occasion, the succussion having passed through the lower extremities, he suffered severe pains in the knees, and in almost every joint during the whole day. The kind of sensation which accompanies the stroke of the gymnotus, is, he remarks, somewhat different from that received from an electric conductor, from the Leyden phial, or from the voltaic pile. The difference, though distinguishable at all times, is still more remarkable in the strokes of the fish considerably exhausted. A sort of thrilling vibratory sensation is propagated along the touching extremity, and is succeeded by a disagreeable numbness. It seems to be this peculiar sensation that has conferred on the gymnotus the names of *tremblador* and *anguille tremblante* in the Spanish and French settlements.

It was observed by Humboldt, and by Gay Lusac, that the torpedo yields strokes, only when the electric organs are touched; that the stroke is more severe when the whole hand is applied than when the animal is touched with a single finger; and that when it strikes, it is observed to move convulsively its pectoral fins. But, from every part of the body of the gymnotus indifferently, strokes may be obtained, as powerful too, from the application of a single finger as of the whole hand; and when the animal strikes, no perceptible motion can be observed.

It has been said, that to obtain shocks from the gymnotus, it is necessary to complete the arc, by touching the body in two points, as we do in discharging the Leyden phial, or galvanic pile; and that, in this way, shocks could at any time be obtained. Humboldt assures us that this is a mistake, a single contact being sufficient to obtain the most powerful commotion, if the animal chooses to strike. This, however, always depends so entirely on the will of the eel, that he may often be handled without the smallest sensation being communicated: Nay, he has held a vigorous gymnotus by the tail, while it struggled and twined round him like a snake, and yet, for a long time, these agitations and contortions were unproductive of any stroke. The eel, however, may generally be excited to give a shock, by tickling some sensible part, as the lip, eye, or pectoral fin. Not only does the electric discharge depend entirely on the will of the gymnotus, but he appears also to have the power of directing the stroke to any part of his body at pleasure; for two persons touching him at the same instant, do not receive the stroke together, but now the one shall feel it, and now the other; or, if the same person irritate him with two metallic rods, applied at a distance from or near each other, he will receive the stroke sometimes through the one, and sometimes through the other, but not through both rods at once.

If the brain be destroyed, or the head separated from the body of the gymnotus, the power of communicating shocks is instantly lost; and though the apparatus remains otherwise entire, no electric phenomenon can be observed. Nay, the muscles seem now unexcitable, even by artificial galvanic combinations: for no contractions were observable on arming them in the usual way, with zinc and silver; the heart alone could thus be excited.

Another experiment would lead to the conclusion that the gymnoti are insensible to the strokes of each other. Of three gymnoti, one was vigorous, and gave very powerful commotions, the other two communicated very feeble, and just sensible strokes. These three gymnoti he so disposed, as that the most vigorous should communicate the stroke to himself through the bodies of the others. In this way he did receive very painful commotions, but it never could be observed that the slightest effect was produced on the other two eels—they seemed quite undisturbed. We have seen, that to receive the full effect of the electric organ of the gymnotus, it is not necessary to touch him in more than one point. It may still, however, be supposed, that, when the experimenter and the eel are both uninsulated, a chain or circle of communication may exist through the medium of the earth. But though M. Humboldt was not in possession of any ordinary insulating stool, he made two observations which render this supposition doubtful; for he received powerful strokes on touching the gymnotus with a single finger or iron wire, when standing on very dry and quartzy sand, which is a non-conductor, and which, therefore, must have insulated him. Standing also on wood well baked in the sun, he received severe commotions when he brought his finger in contact with the eel, or touched it with a metallic rod; and that this wood must have insulated him, he thinks is ascertained by a converse experiment: for when he touched the gymnotus with a piece of the same wood, held in his hand, not the slightest effect was perceived. He concludes, therefore, that an electric arc or chain is not necessary for the obtaining shocks from the gymnotus.

He never experienced any effect, however, unless the body of the animal was directly touched by himself, with or without some *solid conductor* of electricity; so that he never was sensible of the slightest stroke on bringing the finger or conductor into contact with the water immediately incumbent on the gymnotus, if he did not actually touch the of body it. Even the thinnest stratum of water was sufficient to intercept the most powerful stroke. It is farther observed, that the more dry the surface of the gymnotus was, so much the stronger were the commotions received.

In no experiment did he ever perceive the smallest appearance of spark and flash, though others have been more fortunate. The most delicate electrometers of Bennet and Cavallo never could be made, by any the slightest observable divergence, to give any indication of the electric fluid, although, in many experiments, carefully instituted for the purpose, they were made the conductors of the most powerful strokes of the gymnotus.

Thus, the peculiarity of the sensation communicated by the stroke of the electric eel—the commotion received without a chain—and the perfect insensibility of the electrometer to the most powerful discharges of the gymnotic battery, were classes of observations that seemed to contend for Humboldt's former opinion of a peculiar fluid or energy. But since his acquaintance with the experiments of Volta and others, all his doubts have vanished, and the remainder of his paper is occupied in the reconciliation of his observations with the general laws which regulate the motion of low tensions of the electric fluid.

The voltaic pile, he observes, has shewn how an electric current with a minimum of tension may produce violent shocks: and to this the structure and phenomena of the electric fishes bear the closest analogy. But even a weak pile, one giving the slightest shock, occasions a sensible divergence in the gold leaves of the electrometer; and, to obtain shocks, there must be a double contact: whereas the most powerful strokes are received from the gymnoti without a chain, and without the slightest effect being produced on the electrometer. To explain these anomalies, it is observed, that the electric organ of the gymnotus, after discharging itself, does not renew its charge with the same celerity as the voltaic pile; and that, in consequence of the interval between the discharges, the condensor of the electrometer loses its electricity the very moment in which the charge is received, the electric fluid returning from it instantly afterwards to the gymnotus, and before either the charge can be renewed, or the electrometer removed from the contact. With this explanation, however, which was furnished by Volta himself, our author does not seem thoroughly satisfied.

As to the stroke received from the gymnotus by a single contact, and without a chain, it is observed that, according to the observation of Volta, the two surfaces of the electric organs of the torpedo, are, the one positive, and the other negative; and that the animal has the faculty, by the instantaneous secretion of a conducting fluid, or by some other unknown means, of establishing at pleasure a communication between them. Now, as the skin of the electric fishes is but an imperfect conductor, and as their batteries are discharged through it, the accumulated electric current, in overcoming the obstacle opposed, will penetrate the neighbouring substances, and it is the effect of this penetration or lateral stroke, that is perceived on touching one surface of the fish with a single hand. The electric fluid does not in this, any more than in other similar examples, take the shortest road, but passes partly off in a lateral stroke, of which a familiar example is offered, in the contractions in the muscles of a prepared frog, placed in the vicinity of a Leyden phial, when this is discharged by establishing a direct communication between the positive and negative surfaces. In short, the impulse received from the electric eel by a single contact, is merely a lateral stroke.

Still doubting, however, Humboldt concludes, by repeating his questions. Perhaps these animals afford an example of a peculiar mode of electric action, different either from that of the electric conductor, the Leyden phial, or voltaic pile? Is the brain of the gymnotus part of the electric apparatus? For although in this fish the electric organ receives its nerves chiefly from the medulla oblongata, the separation of the brain instantly destroys all their effect. Galvani too has shewn, that the ligature of the nerves, or the destruction of the brain, destroys the electrical powers of the torpedo.

PART III.

MEDICAL INTELLIGENCE.

Account of Diseases treated at the PUBLIC DISPENSARY, *(near Carey-Street,) London, from August 31st to November 30th 1809.*

ACUTE DISEASES.

	No. of Cases.		No. of Cases.
Quotidiana	1	Scarlatina anginosa	13
Synochus	15	Variola	9
Febris infantum	16	——— secundaria	1
Ophthalmia purulenta	1	Varicella	7
Peripneumonia	10	Herpes zoster	1
Cynanche tonsillaris	5	Urticaria febrilis	1
Parotis	1	Rheumatismus acutus	6
Peritonitis post abortum	1	Arthritis rheumatica	5
Enteritis	1	Podagra	1
Cystitis	1	Dysenteria	12
Catarrhus	53	Cholera	1
Pertussis	2	Hydrocephalus	1

CHRONIC DISEASES.

	No. of Cases.		No. of Cases.
Cephalæa	17	Diabetes mellitus	2
Vertigo	4	Hæmaturia	2
Asthenia	15	Dolor uteri	2
Dyspepsia	17	Cancer	1
Pyrosis	3	Leucorrhœa	11
Hæmatemesis	1	Menorrhagia	9
Gastrodynia	7	Amenorrhœa	2
Icterus	2	Tussis cum dyspnœa	28
Enterodynia	5	Hæmoptysis	15
Diarrhœa	15	Phthisis	12
Constipatio	2	Hysteria	8
Verminatio	6	Convulsio	1
Tænia	2	Epilepsia	3
Tabes mesenterica	1	Hemiplegia	2
Marasmus	6	Paralysis	3
Colica pictonum	5	——— saturnina	2
Hæmorrhois	3	Hypochondriasis	1
Peritonitis chronica	1	Mania	1
Nephralgia	5	Melancholia	2

Chronic Diseases continued.

	No. of Cases.		No. of Cases.
Tremor	1	Psoriasis diffusa	4
Chorea	1	——— (of washerwomen)	3
Palpitatio	3	——— gyrata	1
Aphonia paralytica	1	——— guttata	2
Rheumatismus chronicus	26	Erythema	3
Lumbago et sciatica	4	Acne	1
Rheumatismus faciei	2	Scabies	2
Pleurodyne	3	Aphthæ	1
Hyrops tot. corporis	2	Lichen	1
——— ovarii	2	Ecthyma	1
Ascites	2	Purpura simplex	1
Anasarca	4	Porrigo	3
Prurigo	1		
Impetigo	7		

The autumnal months have been, on the whole, chill and wet, and therefore, as might be anticipated, the metropolis has been in general healthy. This conclusion might be deemed paradoxical, indeed, by one unacquainted with the origin of disease: but when it is recollected, that each season is productive of its peculiar diseases, by the peculiar temperature, &c. by which it is characterized.—the hot season by the excess and duration of its heat, and the cold season by the degree and continuance of its low temperature,—it must be evident, (and all experience confirms the inference,) that, in proportion as the peculiarities of the season are absent, its usual train of diseases must be absent too. The testimony of all our physicians demonstrates the salubrity of a mild, though damp winter *; and a similar salubrity attends a cool summer, although moist, upon the same principle §.

Through the whole of September there were scarcely five days without showers, and on two or three the rain was heavy and continued: the temperature was generally low, and during the last ten days the atmosphere was constantly damp and cold. October commenced with a week of fine, mild weather, which was succeeded by another week of clear cold weather, with slight morning and evening fogs: the third week was mild in temperature, but damp; and the last moist and foggy, the fogs in the morning and evening of several days being unusually dense. Until the middle of November, the atmosphere continued chill and damp, with occasional fogs, and showers: from the 15th to the 21st some severe frosts occurred, with a slight fall of snow and sleet on the 18th; and the subsequent portion of the month has been cold, moist, and foggy, with occasional hoar-frost in the nights.

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* See Dr Fothergill's observations on the weather and diseases, 1757.—Dr Heberden junior's paper in the Philos. Trans. for 1796.

§ See Dr Willan's Reports for 1799, p. 211.

It will be observed, that the diseases, more peculiarly autumnal, have no place in the foregoing catalogue. Only one case of cholera occurred; the few cases of synochus were not connected with any morbid profusion of bile, except in one or two instances; and the cases of diarrhœa were generally accompanied by some catarrhal or rheumatic symptoms, implying an origin distinct from that of the bilious diarrhœa of summer.

The month of November has been most productive of diseases, especially of affections of the lungs. The influence of the fogs, which set in during the last week in October, was immediately obvious, by the doubling of our former average number of admissions in the first week of November; at which time some of our annual visitants appeared, with bloated countenances, and severe dyspnœa and cough, dating the return of their disorder, in one or two instances, from the remarkably dense fogs, before alluded to. Of the 81 cases of acute and chronic catarrh, 46 were admitted in November alone, and the majority of the peripneumonies occurred within the same period. The latter have all assumed a degree of inflammatory type, which bore, and was decidedly relieved by blood-letting; and no instance of peripneumonia notha has appeared. Typhus is absolutely unknown among us at present. The scarlet-fever was accompanied by considerable affection of the throat, in most cases, which was alleviated very obviously, by the application of a blister to the external fauces; and all the cases terminated well, under the simple treatment of early purgatives of calomel, (with emetics in some instances,) diaphoretics, and cold washing.

Cases of small-pox have been more numerous than usual, and in many cases fatal, putting on the confluent character, with a pale or milky eruption, rising but little above the surface, and not maturating freely. It cannot be too much lamented, indeed, that the busy opponents of vaccination have succeeded but too well, in exciting the prejudices of the multitude against it, and in extending the malignant poison of small-pox by unceasing inoculation; thus, with a disposition truly *cannibal*, feeding upon the slaughter of their fellow-creatures. Among the cases of small-pox which we have attended, an instance of the *second occurrence* of the disease, in the same individual, presented itself, under circumstances which leave no room for doubt, as to the former existence of it, since the face of the patient exhibits *numerous pits*. Several of my professional friends saw the case, and among them Dr Willan. The eruptions appeared on the face, neck, trunk, and thighs, on the third day of fever, commenced

by

by vomiting, and were afterwards accompanied by considerable febrile disorder; the pustules were somewhat less full than is often observed in the distinct variola, and were drying on the eighth day of the eruption: on which day a lancet was armed on the cheek, for the purpose of deciding the fact by inoculation, where it could be done without danger. It must not be omitted, that the patient is the mother of three children, the two eldest of whom were vaccinated, (one six years ago,) and the youngest, an infant at the breast, not having been vaccinated, caught the confluent small-pox, and died. The mother was infected a second time, by nursing this infant, while the two vaccinated children, living all the time in the same apartment, remained free from disease. The particulars of the case will be laid before the public.

In one of the cases of diabetes mellitus, the treatment recommended by Mr Watt of Paisley, has been adopted by my colleague Dr Laird, with some relief to the symptoms; but hitherto not with more benefit than we have witnessed from other means. The injurious debility, from repeated loss of blood, which might have been apprehended, has not occurred; but threatenings of slight anasarca of the face seemed to be an intimation to proceed with caution. The failure of all other attempts to remove a fatal disease certainly justifies cautious experiment. The result will most probably be published.

The case of ophthalmia purulenta occurred in a new-born infant, whose mother had a gonorrhœal discharge from the vagina, at the time of parturition. In two other cases, which we have seen lately, the mother laboured under leucorrhœa when delivered. This origin of the disease in infants, which, if we mistake not, was first pointed out by Mr Gibson of Manchester, is now, we believe, generally admitted.

One remark more with respect to the purpura, or hæmorrhœa petechialis. It occurred in a feeble woman about forty years of age; nevertheless, after fruitlessly taking bark and sulphuric acid for some little time, she was slightly, but repeatedly, relieved by purgatives of calomel, after which her languor and weakness were diminished: but the petechiæ, which occurred principally on the lower extremities, were suddenly and finally removed, and her strength speedily restored, after a severe catamenial flooding. This case, added to those related by Dr Parry, in a late number of this Journal, tend to throw a doubt upon our theories on the nature of petechial effusions. T. B.

London, November 30, 1809.

Memoirs of distinguished Medical Persons who have died within the last Year.

THOMAS BEDDOES, M.D. was born at Shiffnal in Shropshire, in 1755, and died at Clifton, near Bristol, on the 24th of December 1808, in the 53d year of his age. He had, for some time before his death, been a great sufferer from symptoms of a pulmonary complaint, which he bore with firmness and resolution, continuing to employ himself in his studies and professional pursuits, almost to the day of his decease. On examining his body, the left lobe of the lungs was found greatly diseased, and a collection of water in the chest.

Dr Beddoes was a graduate of the university of Oxford, but he studied physic at Edinburgh, and distinguished himself among his contemporaries there in 1785, by the zeal and intelligence with which he entered into all the scientific pursuits of that celebrated school. In 1792 he resigned his situation as lecturer on chemistry at Oxford, and settled at Clifton, where he practised as a physician, and continued to employ his pen upon a variety of topics, medical, philosophical, political, and metaphysical. His extensive claims to commemoration, as an author, will necessarily form the business of his biographer; in the mean time, a few remarks upon his medical character may justly find a place in a medical publication.

The reputation of Dr Beddoes, as a physician, has not yet attained so high a rank as it deserves. There is an ardor of talent, an animating earnestness, a stimulant exaggeration in his writings, well adapted to arouse the torpor and to provoke the attention of medical readers. He had the mind of a poet, and a painter, and displayed the powers of his imagination in vivid representations of facts and theories. He was a pioneer in the road to discovery. He was full of enterprize, and free from prejudice, and, above all, he shewed an ardour for improvements, a disinterested sincerity, a love of truth, which shunned neither trouble nor reproach. It is to be regretted, that he suffered himself to be carried away with expectations of benefit which he thought would arise from every new hypothesis, and every untried remedy. Some of his wildest sallies were made in search of means for preventing disorders of the lungs; but although his learning has done much in making known the destructive ravages of that malady, his efforts in proposing a method of treatment have not yet been attended with the happiest success. There is a sobriety in the English people, which leads them to receive every new [illegible] with caution, and if it be found not to answer all th[illegible], they are apt to reject it altogether, [illegible] ew futu[illegible] h more sturdiness and distrust. Dr [illegible] sse [illegible] *ntiæ sapientiæ parum*, for the times [illegible] igh views, and that habitual appeal [illegible] losophers which he uniformly dis[illegible] ch sanction as they ought; his zeal has been mistaken for presumption, but perhaps some future age will affix to it the juster character of energy and truth. He was a man of great learning, and understood perfectly the Greek, Latin, French, Italian, Spanish, and German languages. His temper was admirable, and he was highly respectable in all the relations of private life.

David Pitcairn, M.D. F.R.S. and A.S. died in London on the 17th of April 1809, in the 60th year of his age. He was born of very respectable parents at Dysart in the county of Fife, and received his education at the High-School in Edinburgh, and the university of Glasgow. In 1769, he returned to Edinburgh, and studied medicine for three years under the immediate direction of the illustrious Cullen. This circumstance, apparently unimportant in itself, was of considerable consequence in the future life of Dr Pitcairn, as he was probably indebted to it, not only for his fame in his profession, but for his domestic happiness. After three years well spent at Edinburgh, he came to London, and was received under the fostering patronage of his uncle, Dr William Pitcairn, a distinguished physician in the metropolis, who directed his nephew's attention to those instructive lessons which may be learnt in the practical school of a London hospital, whilst he listened to the lectures of Hunter and Fordyce. In compliance with his uncle's request, he entered at Bennet College, Cambridge, in order to qualify himself for the honourable situations which awaited him; and, in 1780, he was elected one of the physicians to St Bartholomew's hospital. Dr Pitcairn always carried in his appearance something winning and attractive. Excellent abilities, engaging manners, great goodness of heart, bespoke and justified the confidence of his patients. He gradually rose into very high estimation, and was only checked by an accident, in his full career to unexpected fame and fortune. In the autumn of the year 1797, he hurt his side by a fall from his horse, which occasioned a train of alarming symptoms, and obliged him to relinquish his elaborate attention to the health of other people, in order to take care of his own. He had hæmoptysis, and some organic disease about the heart, which induced him to go and reside at Lisbon for two years, and his well-directed efforts were rewarded with most encouraging success. He returned to London with an amended constitution, and was able to resume some of the less fatiguing duties of his profession; by rigid abstinence from wine and all fermented liquors, his general health kept improving, and he had no return of his complaint. His death was occasioned by a violent inflammation of the throat and upper part of the trachea, which he is supposed to have caught from a patient whom he was attending a short time before he was attacked by it himself.

Dr David Pitcairn was a pupil of Dr Cullen's, and he did credit to the Cullenian school; for, in spite of all his fanciful speculations, that celebrated professor has turned out more good scholars, more sound practitioners, than any other teacher in any quarter of the world. Perhaps the fate of his master's writings might have deterred the pupil from ever committing himself to the criticism of his contemporaries, or to the searching review of time, for Dr Pitcairn could never be prevailed upon to publish any thing. Such rigid abstinence from every thing like authorship, is not to be defended, particularly among the higher orders of physicians, because it may be extended to the rejection of every project for the improvement of their art. What can be expected from medical writings, if those who are best qualified to write any thing, write nothing? All sciences and arts are progressive, and that of medicine is so in an eminent degree. If it were not for the civilizing influence of the press, the acquired knowledge of an age might perish in a moment, and be lost for ever. Dr Pitcairn was admired for his talents, and beloved for his virtues; and he was particularly respected by his contemporaries for the discretion and good sense which marked every transaction, not only of his private life, but in his intercourse with his professional brethren.

ALEXANDER HUNTER, M. D. F. R. S. L. and E. died at York on the 24th of April 1809, in the 80th year of his age. He graduated at Edinburgh in 1751, and practised nearly fifty years at York with the highest credit and reputation. He was the projector of that excellent institution, the Lunatic Asylum at York, and distinguished himself in the literary world as the author and annotator of several works of considerable merit. He published an edition of "Evelyn's Silva, 2 vols. 4to," which he enriched by many useful notes; also "Georgical Essays, 6 vols. 8vo.," and other miscellaneous works. His medical writings were chiefly practical essays, and cases of insanity, which must have been very numerous. It is to be hoped that his MSS. will not be suffered to be burnt, without a careful search after more instructive cases of insanity, which are much wanted from such experienced and scientific men as Dr Hunter. The urbanity and gentleness of his manners, and the goodness of his heart, rendered him a most friendly physician, and, upon all occasions, a physician-like friend.

Sir GEORGE BAKER, Bart. M. D. F. R. S. died in London in the month of June 1809, in the 88th year of his age. He was born in Devonshire, and educated at Eton, and entered a scholar at King's College, Cambridge, in 1742.

He first began to practise physic at Stamford in Lincolnshire, and was afterwards induced to remove to London, where he pursued his medical career with more success than falls to the lot of most men. He became president of the College of Physicians, physician to the King and Queen, and realized a splendid fortune. Sir G. Baker was an elegant classical scholar; a little volume, entitled "*Opuscula Medica*," is an excellent specimen of his command of the Latin language, whilst the practical observations contained in several of those dissertations, show that he had claims to distinction as an intelligent physician, as well as a good scholar. He passed a long life in uninterrupted good health, and died so easily, and apparently so free from pain, that the beautiful words of Cicero may truly be applied to his latter end, " Non illi fuit vita erepta, sed mors donata."

Extract of a letter from Mr WOODHAM in reply to Dr WILSON.

SIR,—I by no means desire that your pages should be the vehicle of controversy; but as you have inserted in your last number Dr Wilson's reply to my remarks, I have to request the favour of a place in your next for this brief rejoinder, when the business on my part will terminate.

I have again perused Dr Wilson's papers, and am still of opinion, that the words " the hot stage of fever must be regarded as a state of general inflammation" mean, that fever and inflammation are one disease.

That the phenomena of these diseases differ, I am, with him, ready to allow; but that being the case, can we, with propriety, term the hot stage of fever a state of general inflammation? Inflammation may be spread over an extensive surface, or it may be confined to a small space; but the phenomena of each, as far as my experience goes, have always been found the same. It appears to me, therefore, that Dr Wilson's expression, " the hot stage of fever must be regarded as a state of general inflammation" confounds the two diseases.

P. S.—I have been much interested by a paper of Dr Wilson's in a former journal, relative to his own and Bichât's opinion. A contemporary journalist seems to think, that neither of them have any claims to originality. It would be desirable, for the information of such as have not the opportunity of seeing Bichât's works, that this subject were duly canvassed.

London, October 21*st* 1809.

Communications have been received from Mr FINEHAN and Mr BARLOW.

⁂ Communications may be addressed to the Editors, to the care of Messrs CONSTABLE & Co. Edinburgh; Messrs CONSTABLE, HUNTER, PARK, and HUNTER, 10, Ludgate Street, London; and Messrs GILBERT & HODGES, Dublin.

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PART I.

ORIGINAL COMMUNICATIONS.

I.

Observations on the Digestion of the Stomach after Death. By ALLAN BURNS, Member of the Royal College of Surgeons in London, and Lecturer on Anatomy and Surgery in Glasgow.

WHILE inspecting dead bodies, the stomach has repeatedly been found eroded, in subjects where the previous symptoms gave no reason to expect such an occurrence. Yet, till lately, appearances were ascribed by those who saw them to disease; and the cases were described with peculiar care, because they were thought to illustrate the extensive disorganization which might take place, without being accompanied by characteristic symptoms, and without causing death. This is hardly to be wondered at, when we remember, that our forefathers entertained mistaken, and too frequently preposterous, notions regarding the functions of the stomach. They knew that the food was digested in this viscus; but instead of investigating the laws which regulate this process, they wasted their time in idle speculations, about the supposititious effects of fermentation, trituration, and putrefaction; the agency of the gastric juice was by them completely neglected. Mr John Hunter, and some enlightened physiologists, his contemporaries, discarding the influence of imaginary causes, began to examine the digestive process. In the course of this inquiry, new facts presented themselves; the stomach was found, not only to afford a lodgement to the food, while the process of digestion was going on, but also it was discovered, that, either by its own vessels, or by those at the termination of the œsophagus, a peculiar fluid was secreted, a fluid possessed of the curious property of dissolving the food, and reducing it to a pultaceous mass. This was a material improvement in the history of the function of digestion; it was a new fact, which the comprehensive mind of Mr Hunter soon saw might be advantageously employed in illustration of several of the phenomena observed during dissection. He especially applied it to the explanation of some of the cases of erosion of the stomach, and he satisfactorily demonstrated, that generally this was produced by agents acting after death. He likewise proved, beyond a doubt, that during life the stomach resists the action of the fluid which dissolves the food; but he, at the same time, made it plainly appear, that the gastric juice is, after the death of the animal, capable of dissolving the stomach which formed it, and which had, during life, resisted its action by its vital principle. Dr Adams imagines, that Mr Hunter believed that it was only under certain circumstances of death that this digestion of the stomach would actually happen. "But, for this purpose, he saw that the animal must be in health immediately before death, otherwise, neither the quantity nor quality of the secretion would be equal to the purpose. He was confirmed in this by the instances in which he saw the stomach digested. Both were men who had died from a violent death; both had been previously in sufficient health to eat a hearty meal. The fair inference from these was, that when men die of disease, the appetite usually ceases, and probably the secretion of the gastric juice also *." Dr Adams will, I trust, excuse me, when I point out an error he has committed. Mr Hunter, in his observations, details the history of three examples in which the stomach was digested. Two of the men died shortly after having had their skulls fractured, and the third was "a man who had been hanged †." Dr Adams also appears to me to have drawn an inference from the two cases which he does notice, by no means warranted by the general tenor of Mr Hunter's essay. Although the individual cases which Mr Hunter adduces to prove

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* Adams's Observations on Morbid Poisons, 2d edition, p. 30.

† Hunter's Observations on Digestion, p. 185.

prove the fact of the solution of the stomach after death, were subjects who had been deprived of life by violence; still, in no part of his paper, does he limit the action of the gastric juice on the stomach, to such as have been killed by violence. Indeed, it is so much the reverse, that he inculcates, that there are few dead bodies in which the stomach is not in some measure dissolved. Nay, he declares, " that there is frequently a considerable aperture made in this viscus, and, in many subjects, this digestive power extends much farther than through the stomach. I have often found that, after it had dissolved the stomach at the usual place, the contents of the stomach had come into contact with the spleen and diaphragm, had partly dissolved the adjacent side of the spleen, and had dissolved the diaphragm quite through, so that the contents of the stomach were found in the cavity of the thorax, and had even affected the lungs in a small degree *." I would here beg leave to inquire, is it probable, that one so accurate in his statement, and so faithful in his description, as Mr Hunter must be allowed, even by his opponents, to have been, would have used such expressions had he merely seen the three cases which he particularizes. It is quite incredible, nor can I conceive how Dr Adams came to fall into such an error. I have from Mr Hunter's own paper proved, that he had really seen subjects having the stomach digested, besides these he has specified; but, as these cases were the first which came under his observation, they seem to have made the most lasting impression. From this circumstance, and from the manner in which Dr Hunter wrote, many have embraced the opinion adopted by Dr Adams, that solution of the coats of the stomach never does take place, except where the person has been suddenly deprived of life. Yet I do not conceive that Mr Hunter either sanctions this opinion, or that he was the one who brought it into notice. We find nothing of this kind in his essay, where it is clearly stated, that he had met with digestion in the stomach in some who had died a natural death. Can any thing be more explicit than the statement which Mr Hunter gives, when he says, that for sometime he was at a loss how to explain these solutions of the stomach, especially as " they were most frequent in those who had died of violent deaths." No man will believe that Mr Hunter would have expressed himself in this way, if he had never met with an instance of digestion of the stomach, except after death from violence. Were this point merely of a speculative nature, and were its decision merely

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* Hunter's Observations, p. 186.

merely a matter of curiosity, I would consider the time employed in discussing it, as little better than mispent; but when I consider, that it is one on which the practitioner may be called to give his opinion, in a situation where that opinion may determine the fate of a criminal, I cannot but view it as an important question, which it is the duty of every one to elucidate to the utmost of his ability. This consideration, and having had some opportunity of investigating this subject, has induced me to collect the observations which I had made during the dissection of those bodies in which I found the stomach digested. These observations have led me to conclude, that digestion of the stomach after death, is neither so rare in its occurrence as some have imagined, nor is it confined to such subjects as had been, previous to death, in a healthy condition; and they have also demonstrated, that other parts of the stomach, besides the large end, may be acted on by the gastric juice.

That the digestion of the coats of the stomach after death is not a very rare occurrence, I think myself authorized to infer, from my having examined nine bodies in which the solution had proceeded to such an extent as to have made holes of considerable size through that viscus. Besides these nine instances in which the digestion of part of the stomach was complete, I have had occasion to see, in opening this viscus, various degrees of dissolution of its villous coat*. In some of these cases the appearances presented were similar to those described by Mr Hunter, but in others there were considerable differences. In the bodies examined by Mr H. " the parts acted on appear smooth, thin and more transparent, and the vessels will be seen ramifying in its substance; and, upon squeezing the blood from the larger to the smaller branches, it will be found to pass out at the digested ends, and appear like drops on its inner surface†." This condition of the vessels, which by Mr H. is made a prominent feature in those cases where the digestion of the stomach has been produced by the gastric juice, does not invariably accompany such solution. In three of the subjects which I have dissected, there was no appearance of vessels ramifying on the coats of the stomach. In accounting for the want of these vessels, some have given one explanation, while others have attempted a different one. To me it has appeared, that time has been wasted on this inquiry. We are not to look for an explanation of this difference from Mr Hunter's description, as arising from the particular part of the stomach acted on in the different cases; neither are we to imagine that the stage of the process at which we examine the body will assist us in this investigation*. We are rather to obtain an explanation of this fact, from contemplating the differences of condition of the different individuals at the time of death. Were not the subjects whose cases Mr Hunter has detailed men cut off by violence, in the fulness of health, their stomachs, at the time, excited by the stimulus of food to vigorous action, and the process of digestion at the instant of death going on briskly, circumstances under which it is reasonable to infer that all the blood-vessels would be filled with blood, which it is evident, from the nature of the causes depriving them of life, would be detained in the veins? This being the state of his subjects at the moment of death, we shall not wonder that, when he afterwards opened the bodies, he could squeeze the blood from the digested ends of the vessels. In three of my subjects in whom I found the stomach digested, and this appearance of the vessels wanting, the condition of the individuals at the time of death was very different from what it had been in Mr Hunter's cases. In the former, the people were worn out by debilitating diseases; they were emaciated and anasarcous, with hardly any blood in their vessels, and not a great deal even in their hearts. I was not therefore surprized, when I found no blood in the gastric vessels of these subjects. It would indeed have been more astonishing had these been found containing blood, while the vessels of all the neighbouring viscera were empty. I have with confidence ascribed the solution of the coats of the stomach, in these cases, to the gastric juice, and in proof shall hereafter mention the effect produced on those parts in contact with the hole in the stomach. The facts which have been mentioned shew, I think, that digestion of the coats of the stomach may take place under two very different conditions of the body. They prove, that although such solution is most frequent in those who have been suddenly deprived of life when in full health, that it is not confined to those alone, but does, under certain circumstances, with which perhaps we may never become acquainted, occur in those who have died from lingering and debilitating diseases. This last position I bring forward supported by complete proof, without which I would not have ventured to make it public, since it is so opposite to the opinion adopted by many whose authority on such subjects is deservedly high. Perhaps this idea may have originally arisen from the circumstance of Mr Hunter not having been so explicit as we could have wished he had been. Be this, however, as it may, the opinion is at present so prevalent, that some practitioners of eminent abilities who have lately written on this subject, have asserted, that they can hardly conceive it possible that the stomach can be dissolved by the gastric juice in a person in a state of debility at the time of death. Nor is this the only mistaken notion which seems to be at present entertained on this subject. Mr Hunter taught, that digestion of the stomach after death was occasioned by that portion of the gastric juice contained in the cavity of the stomach; consequently it followed, as a fair inference from this doctrine, that the coats of this viscus will only be acted on at that part on which the contents of the stomach rested. In Mr Hunter's cases, the great end of the stomach, which in the supine position of the body is the most depending part of this viscus, was found to be chiefly affected; a fact which tended to corroborate and support his opinion, and to render extremely probable his conjecture. But this assertion, coming from Mr Hunter, had a bad effect; for when practitioners met with instances of solution of other parts of the stomach than the great end, they applied to his essay for information on this point; but finding nothing there to render it even probable that such solution might be effected by the gastric juice, other causes were sought for. Poison has been called in to account for the appearance; and thus the life of the person supposed to have administered the deleterious substance might, it is evident, be brought into danger. As Mr Hunter was seldom in the habit of drawing inferences from an insufficient number of facts, any doctrine broached by him must be rejected with extreme reluctance, and not until we have satisfactory proof of its fallacy. In the present case, Mr Hunter has surely deviated from his usual caution, in forming the opinion that the great end of the stomach will be the only part of the stomach acted on. The following history will shew that he had. About ten months ago I had occasion, two days after death, to open the body of a very emaciated and anasarcous young girl, who had died from scrofulous enlargement of the mesenteric glands. On raising the coverings of the abdomen, the stomach, which was empty, presented itself to view, with its front dissolved. The aperture was of an oblong shape, about two inches in its long diameter, and an inch in its short, with tender, floculent, and pulpy edges. This I demonstrated to the pupils attending my class; and I especially called their attention to the fact, that the liver, which was in contact with the hole, had no impression made on it. Having proceeded thus far, I placed all the parts as they had been, stitched up the abdomen, and laid the body aside in a cold situation for two days. Then I opened it again, in presence of the same gentlemen, and we found that now the liver, where it lay over the dissolved part of the stomach, was pulpy; its peritoneal coat was completely dissolved, and its substance was tender to a considerable depth. At this time the other parts of the liver were equally solid as before; and as yet every part of the subject was free from putrefaction. The posterior face of the stomach, opposite to the hole, was dissolved, all except the peritoneal coat; at least the internal coats were rendered pulpy and glutinous. The peritoneal covering had become spongy and more transparent than it ought to have been. There was no blood contained in either the vessels of the stomach, or other abdominal viscera. The appearance of the dissolved part of the stomach, and the digestion of that part of the liver which was over the hole, will be sufficient to prove that the solution, in this case, was really produced by the gastric juice. This being certain, I may be permitted to mention, that the situation of the aperture was different from what it had been in any of Mr Hunter's cases. It was seated on the fore part of the stomach, about an inch distant from the pylorus, and mid-way between the smaller and greater curvatures of this viscus, at a part of the stomach with which the gastric juice could not have come into contact, as the body had constantly been in the supine posture.

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* It will generally be found that, where the coats of the stomach is softened by the gastric juice, the vessels are unable to resist the force of the syringe in injecting the body. In such subjects we therefore find the cavity of the stomach filled with wax, and we likewise see masses of it collected between the coats of the viscus.

† Hunter's Observations, page 186.

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* It has been supposed, that the appearance of the vessels described by Mr Hunter, will only be met with in solution of the great end of the stomach. At this point the stomach receives the vasa brevia from the splenic vessels, consequently the blood-vessels are here both larger and more numerous than elsewhere, and hence, when this viscus is dissolved, they are found in the state noticed by Mr Hunter.

Others again have contended, that the condition of the blood-vessels does not depend on the part of the stomach acted on, but is solely regulated by the stage of solution at which we inspect the parts. If, say they, we examine the stomach, when its inner coat has chiefly been acted on, the vessels will be seen ramifying on those coats which are only partially affected, and blood may be squeezed from the ends of the vessels; but if a complete perforation have been made, we can neither see vessels ramifying on the dissolved part, nor force blood from their ends. Now, I believe it will be found that neither of those afford a satisfactory explanation of the point in question; but as these opinions are contained in papers published regarding a late case which occurred in Liverpool, into a discussion of the merits of which I do not wish to enter, I forbear to make any further comments on them.

The same fact I have seen exemplified in other two subjects; but the particulars of these cases I do not consider it necessary to detail, after the full account I have given above.

If, then, the stomach was not acted on by fluid contained in its cavity, how came it to be dissolved? To me it appears, that we cannot, with propriety, ascribe the digestion of the stomach, in every case, to the gastric juice which has been poured into the cavity of that viscus. We are more properly to refer it, in some instances, to the action of the gastric fluid retained in the vessels which had secreted it. If this be admitted to be a correct explanation of the fact, that the fore-part of the stomach is sometimes digested by the gastric juice, we shall cease to have any difficulty in accounting for the dissolution of other parts of this viscus, besides the large end. We shall learn, that the part acted on must vary, according to the place of the stomach where the gastric juice is retained in the apparatus which secreted it, and thus we shall be enabled to explain some cases, which, at present, seem to be in opposition to the observations of Mr Hunter.

I cannot finish these remarks, without calling the attention to one point noticed in the history of the case: I allude to the state of the neighbouring viscera, at the opening of the body, two days after death. At that time, none of them were in any degree affected; yet it has been seen, that when the subject had been allowed to lie for other two days, that part of the liver, in contact with the dissolved portion of the stomach, was also in a state of solution. At this stage, the coats of the stomach opposite to the hole were likewise acted on. It is, therefore, to be remembered, in judicial investigations into the cause of dissolution of the coats of this viscus, that the appearances will vary, according to the period after death at which the body is examined.

The opinion of the digestion of the stomach being produced by that portion of the gastric juice contained in the cavity of this viscus, will be found to be enforced by Mr Everard Home, in his paper "on the structure and uses of the spleen." Mr Home supposes, that the human body is divided by a muscular contraction, into a cardiac and pyloric portion; and he further believes, that, in the first, the food is acted on by the gastric juice. It is there that it is reduced to the pultaceous mass, which afterward is propelled into the pyloric cyst, where the chyle is separated from it. "That the food is dissolved in the cardiac portion of the human stomach, is proved, by that part *only* being found digested after death; the instances of which are sufficiently numerous to require no addition being made to them. This could not take place, unless the solvent liquor was deposited there." I do not pretend to decide on the propriety of Mr Home's opinion, regarding the part of the stomach in which the food is digested, but I think the cases which I have mentioned go a considerable way to disprove it. But here, I must point out the fallacy of one point of his statement. Have we not seen that the fore-part of the pyloric end of the stomach has actually been found digested after death ? and having seen this, are we not, equally with Mr Home, authorised to infer, that the food is alike digested in the pyloric, as in the cardiac portion of this viscus. It may be said, that as the stomach was not, in these cases where its pyloric end was dissolved, divided into two cavities, the gastric juice, which was originally deposited in the cardiac portion, might, in moving the body, have passed into the pyloric part, and thus dissolved its coats. The case which I have detailed at length will refute this idea. In it, the solution took place at a part of the stomach where it could not have occurred, had it been occasioned by fluid lodged in its cavity. While I thus object to one part of Mr Home's paper, it is but justice to add, that I often have found the stomach, as he describes, divided by a muscular contraction into cardiac and pyloric cysts.

It may, perhaps, be expected, that I should now assign a reason, why the solution takes place in some subjects and not in others. I am not ignorant of the explanation which Dr Adams has given of this fact, yet, I know so little concerning this part of the subject, that I feel myself neither warranted to adopt or reject his explanation of it. I do not know whether, as Dr Adams believes, it depends on the suddenness of actual death, as put in opposition to apparent death, or, whether it arises from some alteration in the quality of the gastric juice. At all events, I consider it sufficient for my purpose, to have pointed out the facts which I have detailed, regarding the digestion of stomach : I leave it therefore to others, to explain the immediate circumstances, rendering the stomach liable to be dissolved.

As in some degree connected with the accounts given of the digestion of the stomach after death, I may mention, that, in four instances, I have found every part of the alimentary canal, from the cardiac orifice of the stomach, down to the beginning of the rectum, dissolved into a pulpy glutinous mass, transparent, and bearing some resemblance to thick starch. Not a single point of either the stomach or intestinal tube, but was so much acted on, that it tore whenever it was even gently touched. The other viscera were not acted on. The subjects were young children, fat, and free from putrefaction, and in whose bodies I could distinguish nothing satisfactory to account for death. In all of them, the abdomen, when opened, emitted a sour smell. As I never met with an instance of this uniform solution of the bowels in a body, with the history of which I had been acquainted previous to death, I do not wish to enter more fully, for the present, into the history of the cases which I have examined. I may, however, add, that I never observed an occurrence of this kind except during the summer months.

Glasgow, January 1st 1810.

II.

Regulations with regard to the passing of Conscripts for the French Army.—Extracted from the Code de la Conscription.

The examination of recruits forms an important part of the duty of the military surgeon. In this country, a discretionary power is entrusted to them, to decide whether an individual is to be considered as capable of undergoing the fatigues of service, or whether he labours under a temporary or permanent disability. In France there is no such discretionary power. The most exact rules are laid down for the regulation of the surgeon; and, as every thing connected with the military system of the present ruler of France ought to be generally known, we are happy in having it in our power to lay before our readers a detail of the regulations drawn up during the reign of the Directory, but still in force in France, in regard to the exemption from military service.

Every conscript claiming exemption from military service on the grounds of bad health, or bodily inability, must appeal, in the first instance, to his Municipal Administration.

He is then examined by a health-officer, in presence of the administration, if he be capable of attending, or, in presence of a delegate from it, if he be totally incapable of attending in person.

Before any dispensation be granted, the commissioner of the executive directory must be heard; and either he, or any member of the Municipal Adminstration may, after the examination of the health-officer, require a counter-examination, if there be any reason to doubt the severity of the disease, or the nature of the infirmity alleged.

When the Municipal Adminstration consider any appeal to be without foundation, the conscript is obliged to join the army without delay.

When they consider themselves incompetent to decide upon the appeal, the commissioner of the directory gives the conscript an authority to present himself immediately before the central administration for their decision.

The Municipal Administration can only grant definitive dispensations, in cases of palpable and notorious infirmities.

It can only grant provisional dispensations, not exceeding three months, when acute diseases or accidents prevent the conscript from presenting himself at the capital of the department.

Every dispensation by the Municipal Administration must be signed by the majority of the members, and transmitted to the Central Administration for approbation or rejection.

When the Central Administration refuses to ratify the dispensation granted by the Municipal Administration, the petitioner is obliged to present himself immediately for examination.

When the Central Administration confirms a definitive dispensation of the Municipal Administration, the commissioner of the directory transmits it to the minister of war, who sends to the conscript an order of dispensation, or annuls the dispensation, according to principles to be mentioned. In waiting for the decision of the minister, the conscript remains at home.

When the Central Administration confirms a provisional dispensation, the commissioner of the directory attached to it notifies it to the commissioner attached to the Municipal Administration, who is charged with the duty of obliging the conscript to join the army, after his dispensation has expired; allowing him, however, according to the forms prescribed by law, to shew just reasons for soliciting a definitive dispensation, or a renewal of his provisional dispensation.

Every application for a dispensation, definitive or provisional, for diseases not obvious, or diseases which do not prevent the applicant from attending at the capital of the department in person, must be judged of by the Central Administration.

No conscript is entitled to present himself, who does not bring a certificate from a health-officer, that he is really affected with a disease which appears to him to authorize an application.

Should the Central Administration decide against his application, the conscript has no appeal; but if it decide in his favour, the commissioner, or any member, may protest, and order counter-visits; and, lastly, the minister of war may annul every dispensation.

The officers of health are chosen as much as possible from among those paid by the state, or attached to the military service.

To prevent all collusion between the health-officers and the appellants, the administrations are not to name the inspector until the moment of inspection; and whatever the advice of the inspector may be, still the administration is held responsible for its decisions.

Officers of health, and others convicted of having given a false certificate of infirmities or inabilities, or of having received presents or gratifications, shall be punished by not less than one, or more than two years imprisonment, or by fine, not less than 300, or more than 1000 francs.

The officers of health, in giving their opinions, are to regulate themselves by the following tables.

TABLE FIRST.

Evident infirmities, implying absolute incapability of military service, and which are left to the decision of the Municipal Administrations of the canton.

1. Total privation of sight.

The accident which gave rise to this privation, or the disease which supports it, must be mentioned. There should also be a distinction and specification made of *gutta serena*, cataract, glaucoma, the diseases peculiar to the cornea and uvea.

2. The total loss of the nose.

3. Dumbness; permanent loss of voice; complete deafness.

These three infirmities ought to be very notorious, and legally established. The accident, or known cause giving rise to them, must be mentioned. If there be any doubt of their existence, or if they do not exist in a great degree, the decision is to be reserved for the central administration.

4. Voluminous and incurable *goitres*, habitually impeding the respiration.

5. Scrofulous ulcers (ecrouelles.)

The symptoms characterizing the disease are to be related.

6. Confirmed phthisis pulmonalis. *i. e.* in the 2d and 3d degrees. Care must be taken to report the symptoms characterizing this state. As they are but too evident, they ought to procure an absolute dispensation. But for commencing phthisis, *i. e.* in the 1st degree, asthma, even chronic, and hæmoptysis, the Municipal Administration ought to grant only a provisional dispensation, if the sick person be incapable of presenting himself before the central administration, the decision in these different cases being reserved to the latter.

7. The loss of the penis or of both testicles.

8. The total loss of an arm, leg, foot, or hand; the incurable loss of motion of these parts. The accident or disease occasioning it is to be mentioned.

9. The aneurism of the principal arteries.

10. The curvature of the long bones; rickets or nodosities sufficient to impede evidently the motion of the limbs.

Other diseases of the bones, although great and palpable, are sometimes liable to doubt, and therefore are reserved for the judgment of the central administration.—(See Art. XII. and XXIII. of the 2d Table.)

11. Lameness (claudication) well marked, whatever be the cause; this must be precisely stated. The same is the case with considerable and permanent retraction of the flexor or extensor muscles of a limb, or paralysis of these, or a state of relaxation impeding the free exercise of the muscular movements.

12. Atrophy of a limb, or decided marasmus, characterized by marks of hectic and wasting, which should be stated in the report.

TABLE SECOND.

Infirmities or diseases which occasion absolute or relative incapability for military service, and which are reserved for the examination and opinion of the Central Administrations of the department.

1. Great injuries of the skull, arising from considerable wounds, or depression, exfoliation, or extraction of the bones.

These sometimes occasion all, but commonly several of the following symptoms: affection of the intellectual faculties, giddiness, swimming in the head, drowsiness, nervous or spasmodic symptoms, frequent pains of the head. The report shall mention the symptoms which the patient actually has.—(See Note B.)

2. The loss of the right eye, or of its use.

This defect disqualifies a man for serving in the line, but does not prevent him from being useful to the army in other services, or in the marine.

3. Fistula lacrymalis, chronic ophthalmia, or frequent rheums in the eyes, as well as habitual diseases of the eylids or lacrymal passages, of such a nature as obviously to injure the powers of sight.

4. Weakness of sight, permanent defects of vision, which prevent objects from being distinguished at the distance necessary for the service of the army, short-sightedness, night-blindness, confusion of vision.

The defects of vision present many difficulties in their examination, and often leave the medical officer in doubt. In this case the precautions mentioned in Note A. must be attended to.

5. Deformity of the nose, capable of impeding respiration considerably; ozoena, and every obstinate ulcer of the nasal passages or palate; caries of the bones of these parts, and incurable polypi.

6. Stinking breath, from an incurable cause, as well as fetid discharges from the ears, and habitual transpiration of the same character, when incurable.

Soldiers who emit these fetid exhalations are rejected by the corps and repulsed by their comrades.

7. Loss of the incisive or canine teeth of the upper or under jaw; fistulas of the maxillary sinuses; incurable deformity of either jaw by loss of substance, necrosis, or other cause, hindering the biting of the cartridge, or impeding mastication, and injuring the speech.

A person without canine or incisive teeth cannot be a soldier of the line, but may be employed in other services.

8. Salivary fistulas, and the involuntary flow of saliva, when incurable.

9. Difficulty of deglutition, arising from paralysis, or some other permanent injury, or incurable lesion of the organs employed in that function.

10. Permanent and well established diseases of the organs of hearing, voice, or speech, considerable in degree, and capable of impeding their use considerably.

These infirmities are often very doubtful; they may be simulated, and ought not be decided upon without taking the precautions directed in Note B.

11. Ulcers and tumors of a decidedly scrofulous nature.

Scrofula very rarely exists without being accompanied by glandular swellings, and other symptoms indicating a scrofulous cachexy, which ought to be noticed in the certificate.

12. Deformity of the chest, or crookedness of the spine, sufficient to impede respiration, and to prevent the carrying of arms and military accoutrements.

When these deformities of structure are not of a certain degree, they do not disqualify for the lower services of the navy, and other functions about the army.

13. Phthisis in the first degree, confirmed asthma, and habitual, frequent, and periodical spitting of blood.

Frequently the state of patients attacked with these diseases of the breast is evidently bad, and accompanied by circumstances which leave no doubt; they then admit of an absolute dispensation: Sometimes they are less decided, when only a provisional judgment is to be given, and the proof of testimony and methodical treatment is to be required.

14. Irreducible ruptures; or those which cannot be reduced without danger.

15. Stone in the bladder, gravel, habitual incontinence, or frequent retention of urine, as well as severe diseases or lesions of the urinary passages, fistulas of these parts, whether incurable or requiring constant medical assistance.

Some of these admit of doubt, such as the retention, and especially the incontinence of urine. They may be simulated, or at least artificially provoked; in these cases the decision must be regulated by the principles laid down in Note C.

16. The permanent retraction of a testicle, its strangulation in the ring, sarcocele, hydrocele, varicocele, all severe affections of the scrotum, testicles, or spermatic cords, known to be incurable.

17. Ulcerated hæmorrhoids; incurable *fistula in ano*; periodical and incurable hæmorrhoidal flux; habitual and chronic flux of blood from the intestines; habitual incontinence of feces; habitual *prolapsus ani.*

These different infirmities ought to be authentically established by able health-officers, who have for a long time treated and observed the patient. Until the certainty and incurability of these affections be established, only a provisional dipensation can be granted.

18. The total loss of a thumb or great toe, of the forefinger of the right hand, or two other fingers of one hand, or two toes of one foot; the mutilation of the last joints of one or several toes or fingers; the irremediable loss of motion of these parts.

Should these infirmities, these mutilations interfere, though in different degrees, with several parts of the service of the infantry, they do not always prevent the person from being useful in other services of the army, such as miners, sappers, pioneers, pontoniers, or even that of the cavalry, if the mutilation of the toes or right hand be not considerable; lastly, in the navy.

If, therefore, the petitioner, on account of any other mutilation than the loss of the thumb, is in other respects strong and of a robust constitution, he ought to be sent to the army. This decision will be still better founded, if the mutilation be suspected to be recent and voluntary.

19. Incurable deformities of the feet, hands, limbs, or other parts which impede marching or handling of the arms, or carrying the accoutrements, or the free motion of any weapon.

These deformities may give rise only to a relative invalidity; in that case, it is proper to detail the physical effects which result from it, to establish in what kind of service the petitioner might nevertheless be employed.

20. Large and numerous varices.

21. Cancers and ulcers, which are inveterate, of a bad character, incurable, or whose cure it would be imprudent to attempt.

These ulcers are always accompanied by other symptoms, which indicate a bad habit of body; these ought to be mentioned in the report.

22. Large and old cicatrices, badly consolidated, especially

if they have adhesions, and be accompanied by loss of substance; are covered with crusts, or attended with varices.

23. Severe diseases of the bones; such as diaseasis, or separation, anchylosis, caries or necrosis, spina ventosa, osseous tumors, and those of the periosteum, when considerable, or situated so as to impede motions, and which have been treated without success.

All these severe cases give rise to absolute invalidity; but if the tumors of the bones or periosteum be not considerable, they may still be compatible with some kinds of service.

24. Diseases of the skin, when they are capable of communication, when they are old, hereditary or obstinate, as tinea, acute, moist and extensive herpes, obstinate and complicated itch, elephantiasis, lepra.

In all these cases, a definitive dispensation cannot be granted until after methodical treatment, by very intelligent officers of health, has been long continued in vain, or unless the constitution of the patient be obviously injured; otherwise there is only grounds for a provisional dispensation to give the petitioner time to undergo the proper treatment.

25. Decided cachexy, of a scorbutic, glandular or other nature, known to be incurable, and characterized by evident symptoms of long standing, which must be mentioned in the certificate.

Dropsies known to be incurable.

These different cachexies, when carried to a great degree of degeneracy, render the patient absolutely incapable of any military service; but when they are not inveterate, or are produced or supported by a cause which may be efficaciously combated, they only entitle to a provisional dispensation.

26. Debility and extreme extenuation, joined to a diminutive stature, or to a very tall stature, out of the ordinary proportions.

These cases are not unusual at the age of conscription, and require much judgment in deciding upon them; often they only entitle to a provisional dispensation.—See Note D.

27. Gout, sciatica, inveterate arthritic and rheumatic pains, impeding the motions of the limbs and trunk.

These infirmities often give rise to doubts, and are to be judged of according to the principles in Note E.

28. Epilepsy, convulsions, general or partial convulsive motions, habitual trembling of the whole body, or of a limb, general or partial palsy, madness, and imbecility.

The real existence and incurability of any one of these affections, are sufficient to authorize an absolute dispensation from all military service. But these cases are often equivocal; the disease may be simulated, and is to be judged of with the precautions mentioned in Note B.

Council of Health, Paris, 28th Pluvoise, An. VII.

Notes upon the Tables of diseases entitling the conscripts of the French army to dispensations.

A. When an external and obvious injury prevents vision, or affects the organ of the eye, as in some of the cases cited in the 1st article of the 1st table, and in the 3d article of the 2d table, the surgeon can decide with certainty; but the feebleness of sight cannot be estimated with such precision when no external appearance indicates it. The same observation applies to myopia, or short-sightedness. Still, however, the distance at which a person who complains of it is able to read, the effect which is produced upon his vision by means of a glass not calculated to improve the vision of short-sighted people, may furnish surgeons with tests for the discovery of the truth, or detection of the fraud. With regard to nyctylopia, or nocturnal blindness, it is rare in youth, and often only temporary.

With regard to amblyopia, which consists of seeing objects at all distances confusedly, during the day as well as night, we acquire from examination some certainty, when we perceive that the pupils have changed their diameter, or when they have lost somewhat of their mobility, or of their regularity: Some persons have also in their eyes a convulsive vibration, which is called *visia vaga.* It is the duty of a surgeon examining conscripts for the army, not to pass his judgment upon these different diseases of the eyes, until he has collected all the rational proofs of their existence. To acquire a greater degree of certainty, he ought still to require, that there should be brought before the commissary of the executive directory, the testimony of ten individuals, not the relations of the appellant, but who know his habits in private life. Finally, though the different defects of sight, when they are considerable, may expose the soldier labouring under them, to endanger the loss of a post, they do not hinder him from being useful in other services in which he may be employed in the army.

B. It is difficult to judge readily in every case which does not present some sensible appearance of an organical lesion. To give a negative judgment would not be just, because the conscript, at the time of the visit, might not find himself in that state which he complains of. On the other hand, he might feign deafness, pains, even a fit of epilepsy, without being, in reality, subject to any of these diseases; and an exception decided upon so equivocal a ground would be really an infraction of the law. It is therefore necessary to watch these young people, either in a military hospital, or in their private life. The testimony of the surgeons who attend them, and that of ten householders, of known probity, who are not related to him; public notoriety, certified by the constituted authorities, are so many means which, added to recognized rational signs, may increase the probability almost to certainty, and found an impartial judgment. Moreover, as most of these diseases yield to time or skill, there is no need for granting an absolute or definite exemption for those recruits who are afflicted with them. Before the surgeons can pronounce their opinion with perfect certainty, it is necessary that the young men should present themselves for examination, at stated periods, and sometimes for several months.

C. Retention of urine produces well-known symptoms, whose existence, or absence, contribute to discover the reality or the pretence of the malady, its durability, or its transitory nature. With regard to incontinence of urine, it is difficult to judge whether it be natural or artificial, transient or incurable, because the redness and the cracks in the skin which urine produces, are common to the impostor and to the invalid. Testimonial proof is also here insufficient. However, the physical form and constitution of the claimant, taken together, may give sufficient grounds for the decision; and if the young man has, in other respects, a healthy and vigorous look, he may be sent to the army without any inconvenience.

D. The last obvious circumstance which ought to procure exemption from military service, is marasmus, which is to be considered as the last stage of the cahectic state. This is produced by either one or several diseases; the emaciation may be owing to a defect of vigour and of growth; the former state scarcely allows of hope, the latter is susceptible of amelioration. It is certain that, at the age at which young men become liable to serve, great leanness, joined with a little stature, muscles not well marked, and a shrill voice, indicate that the youth will never be a man, in the strict sense of the word; or that, before becoming it, and being capable of enduring the fatigues of a military life, one of those revolutions in his constitution must take place, which nothing but time, a good diet, and exercise proportioned to his increase of strength, can bring about. If such a one, by age, is liable to serve, his nature still ranks him among children. Justice and humanity require the adjournment of the decision respecting him from three months to three months. When a conscript has grown very rapidly; when he is tall, lean, and slender made;

when he has a long neck, arms, and legs; and when his breathing is difficult from the least exercise; such an individual is out of the question, until nature has added in strength, what it has hitherto confined to stature.

E. When the appellant is afflicted with well attested gout or rheumatism, which confine him to bed or to the house, and hinder him from repairing to the head-quarters of the department, he ought to be considered as afflicted with an acute disease, and as having a right to a provisional dispensation. With regard to those affections in their chronic state, it is seldom that the gout which has arrived at a certain degree of obstinacy, does not leave, in the affected parts, either nodosities or sensible contractions. Rheumatism, and especially that which attacks young people, who, however, in general, are much less subject to it than those more advanced in age, alters the form of the muscles, and the colour of the skin. It causes a wasting of the part affected, which may be recognized by simple inspection. But when no sensible appearances prove the existence of rheumatism, the surgeons may draw some probable inferences from knowing the conscript's profession, and the climate in which he dwelt. We know that young people in the country are more subject to those affections than those in towns, and that in some kind of abodes they are more easily contracted. Joining all these data, combining and comparing them together, the surgeons may commonly distinguish a real affection from a feigned one. As it is but just that, in some other equivocal cases, such as those respecting the diseases of the breast, humanity should incline to the conscript's side; so, with respect to pains and rheumatisms, which are not proven, it is equally proper to prefer severity to indulgence, as military exercise, far from aggravating this predisposition, if it exist, will only contribute to remove it.

III.

Letter from Professor E. M. of Rosenschoeld, of the University of Lund, in Sweden, to C. Chisholm, M. D. F. R. S., &c. Communicated by Dr Chisholm.

Sir, *Southampton, July 29th,* 1809.

YOU see I am yet in England, and I hope not to leave it this year. According to my promise, I have endeavoured to procure for you the information you wish respecting the Pestis Bovilla; and I herewith send you Professor Florman's answer to your questions, exactly though not elegantly translated, from the Swedish, by myself. He wishes to be honoured with a letter in the Latin tongue, if you will enter into any further correspondence with him. He excuses the lateness of his answer, with having been, for a long time, ill.

I have the honour to be, with great respect,
Sir,—Your most obedient humble servant,
E. M. of Rosenschœld.
Royal Professor of the Theor. Medicinæ at the University of Lund in Sweden.

Question 1*st*, Does the Pestis Bovilla, prevailing in Sweden and Denmark, correspond with the description given by Ramazzini, Vicq d'Azyr, Goëlicke, Lancisi, &c.?

Answer. The epidemical disease, or plague of the horned cattle, has not prevailed in Sweden since the year 1766; and in Denmark, not since 1772; I have consequently not any personal experience of it. But to judge from the best Swedish and Danish descriptions of the disease, it comes nearest to the Pestis Bovilla of Lancisi, and to the Lues Bovina, described by Ramazzini and Camper as prevailing in these countries; although, with this difference, that the eruption on the skin, mentioned by these learned men, has not been a constant symptom in these northern countries, but more frequently wanting.

Q. 2*d*, Is the infection of the Pestis Bovina communicated to the human race in the manner pestilential infection is, *i. e.* by an emanation or aura from the sick beast to the healthy man? Or, in any instance of a pestilential disease among men, is the infection communicated from the sick man to the healthy beast?

A. Denmark has, upon all occasions, received this complaint from the neighbouring German States, and Sweden commonly from Denmark; and, as it is pretended, by the importation of raw hides. From one single place it has spread rapidly, and particularly in the flat districts, more stocked with cattle; but more slowly in the less inhabited woody districts, where there is less communication, and there it has also sooner ceased. It has seemed to be propagated in the same way as the plague among mankind, and not only by contact, but also by emanation, at least at a little distance.

Q. 3*d*, What is the result of your inquiries and observations, respecting the causes of the Pestis Bovina? Does it arise from unwholesome pastures; from neglect of cleanliness in the stables;

or is it an infection *sui generis*, the cause of which has hitherto escaped detection?

A. Any other cause of this complaint, than contagion of a specific virus, we do not know here, where the true Lues Bovilla never has been originally generated; though we have sometimes seen a malign fever among the cattle, united with anthrax, which most often kills before the third day. But this disease is very different from the genuine Pestis Bovilla; and I have never seen or heard of the latter arising from the former. It prevails in the warmer summer months, and ceases of itself in the autumn, or sooner. This complaint seems to depend on local circumstances, and arises, in some places, without having been brought to them, by contagion, from other places. Overflooded and swampy districts, especially in a warm and dry summer, are very subject to this illness. But the genuine Pestis Bovilla has prevailed in all seasons, in stables as well as out in the fields, without any material difference, arising from more or less good pasture, or more or less care bestowed.

Q. 4*th*, Has it ever happened in Sweden or Denmark, whilst the Pestis Bovilla has been at any time epidemic among the cattle, that the lower classes of the inhabitants have been permitted to eat the flesh of the bullocks which have died of it? If they have, what has been the result to them? The eruption of anthrax or carbuncle, with the usual attendant symptoms and death, or have they eat of the flesh without injury?

A. I do not know any example that in our country any body has eaten the flesh of cattle killed by the plague. It would have been as well against the prejudices of the common people, as against the laws of the country. But, doubtless, they have killed cattle which have begun to be ill of the plague, but I am persuaded, that the flesh by boiling quite loses its contagious quality. I also do not know any example that the genuine Pestis Bovilla has been propagated to other animals than the cattle. But we have had in our country several proofs, that the fever, with anthrax, in the same time, attacks horned cattle and horses, nay also the human species.

Q. 5*th*, Are there any good reasons for believing, that the Pestis Bovilla partakes of the nature of variola or small-pox; and that the disease may be communicated like it by inoculation? And have any attempts been made in Sweden or Denmark to ascertain this?

A. I cannot find that the true Pestis Bovilla corresponds with variola in mankind. At least, the elevated pustule ought to be, in that case, a more constant and general symptom of this plague. It can, nevertheless, as other contagious complaints, be propagated by innoculation, of which we have a number of examples, as well in Holland as in Denmark, where many of the inoculated cattle had recovered, and since not been contaminated by other sick cattle. For the inoculation has commonly been used the matter which discharges from the nose of the sick cattle.

Q. 6th, What method of prevention and cure has been established; and how far has it been successful?

A. We know not yet any other sure preservation against the Pestis Bovilla, than the separation of the healthy from all communication with the sick. Different times the illness has been in the beginning stopped, by killing all cattle in the neighbourhood. Neither is any remedy known which decidedly and surely cures. It has been thought that the most benefit has arisen from the use of diaphoretica, and of them chiefly camphor, sulphur, garlic, &c. together with setons, &c.

A. H. Florman.
Royal Professor of Anatomy and Surgery, and Veterinarian Lecturer, at the University in Lund, in Sweden.

Dear Sir, *Clifton, January 24th*, 1810.

The foregoing may, perhaps, be considered an useful sequel to the paper on the Lues Bovina Intertropica; and, as such, I have much pleasure in transmitting it to you for insertion in the Medical Journal. The distinction between the true lues bovina, and the anthrax of cattle, depending on local causes alone, and incapable of propagation by contagion, is remarkable. It may be considered as similar to the remittent yellow fever, and the malignant pestilential fever of the tropics and North America: the former mistaken for the latter; and giving rise to all the misconceptions which have occasioned so much discussion of late. It would appear, from Dr Florman's statement, that the eating of the flesh of morbid cattle, or rather of cattle which have died of the lues bovina, does not produce the carbuncle it is productive of within the tropics—for if boiling the flesh could deprive it of this pernicious and singular quality in Europe, the same process would have been attended with the same result in the West Indies. I do not, indeed, know with certainty the mode of preparation used by the negroes; but this I know, that in no instance do they use raw flesh as food; the probability, therefore, is, that they either roasted or boiled it. This seems to confirm the opinion I have offered, that climate heightens the virulence of the disease, in the same manner as the typhus of cold and temperate climes, on transportation to the tropics, or a tropical temperature,

ture, becomes the malignant pestilential fever. Thus the object I had in view, in drawing up a paper on the Lues Bovina, seems to be accomplished. We have, through Dr Florman, a clear perception of the identity of the European and tropical disease, in their general outlines, but of a discrepancy arising from the influence of climate; a very interesting and curious point in comparative pathology, and very illustrative of human pathology.

I remain, Dear Sir,
Yours, very sincerely,
C. CHISHOLM.

DR DUNCAN, JUN.

IV.

Case of Disordered Alimentary Canal, supposed to have arisen from the person swallowing a Skein of Cotton several years before. By MR FINCHAM.

May 1807.

MISS D. aged 25, of a ruddy, and very fair complexion, short, and stout in person, but with a naturally indifferent appetite, about five or six years since, accidentally swallowed a loose *skein* of cotton. No inconvenience was felt, till at the end of three months, when, upon being electrified, she was seized with violent pain in the stomach, without sickness. She, however, loathed every kind of food; the pain returned at the same time every day for some months, lasting two or three hours without intermission. She had also much pain on taking any thing into the stomach; subsequent to which, the abdomen became distended with soreness about the epigastric region, and pain between the shoulders. This soreness never remitted, and she could not lie down during the pain after eating. Her legs and feet swelled. From a friend's only requiring her to take food, she became sick, and vomited the cotton, which, from being white, had acquired a permanent green colour, but was very little changed in texture. Much general indisposition remained for seven or eight months, but she afterwards enjoyed good health.

In April last, having the catamenia, whilst attending a friend in the borough, she caught cold, and they were suppressed; almost immediately after which, she was attacked with excessive pain in the stomach and bowels. On the second or third day of this attack, she vomited the contents of the stomach; but the pain continuing, she vomited a considerable quantity of blood the day after. Medical aid was procured; the feet were immersed in warm water repeatedly, but she was not bled. However, her complaints were relieved, and she regained sufficient strength to walk a mile. From this exertion, the pain, sickness, and frequent vomiting of small quantities of blood returned, and continued to recur till within a few days of her leaving the borough for Kensington, where she arrived on the 4th May.

The motion of the carriage induced another attack of the same symptom. I was not sent for till Miss D. had been ten days at Kensington.

May 13th.—The complaint appears confined to the stomach, which is affected with constant uneasiness, and frequent attacks of violent pain, not to be described; the pain continuing a few minutes, sickness ensues, with violent retching, and, after many fruitless efforts to vomit, a small quantity of florid blood, mixed with saliva only, is thrown up. Almost every thing taken is rejected, and the same thing is not retained after two or three times taking. No blood appears when the contents of the stomach are vomited.

No appetite; and she is immediately aware, on food being presented to her, whether it can or cannot be retained in the stomach. No particular thirst; not exceedingly emaciated. Tongue, which, in the former part of her illness, had been black, is white, with a most unpleasant taste in the mouth. Her bowels are said to have been moved several times since her arrival here; pulse, small, frequent, and hard; sleeps very indifferently; she had a few very comfortable nights on first coming to Kensington.

May 14th.—Continues apparently to grow worse; she had no rest last night; is unable to take the drink prescribed, (imperial, or something of the kind,) even in the smallest quantity; she is much weaker, and has had frequent vomitings of blood, &c. A blister was ordered to be applied to the pit of the stomach, and pills of calomel and hyoscyamus was prescribed.

15th.—Has not vomited since taking the second pill last night, till to day at noon, an hour after the third. Being present at this attack of pain, I found it produced a most violent straining and action of the stomach itself, and wreathing of the whole body, from the excess of agony. After a repetition of straining and retching, a small quantity, not more than half a tea spoonful, of arterial blood was ejected, but the pill remained; a remission of the attack took place, and no pain remained whatever.

The

he blister did not rise. No stool these three or four days. was ordered a common injection, the pills were continued, the blister repeated.

7th.—Is improved in every respect; tongue not so white, lse natural, with a trifling degree of hardness; catamenia pre-nt in sufficient quantity; these have been regular for some me.

The bowels were relieved in the night of the 15th, and yesterday morning, of hardened feces, &c. to a prodigious amount. She has owned, that half a dozen glysters, ordered by her medical attendant in the borough, were not administered.

Yesterday evening, vomited a considerable quantity of greenish fluid, without any ingesta; this was not preceded by any particular pain, and has not recurred.

18th.—Rather worse to day; she exerted herself too much yesterday; she has vomited much less, but the violent pains have returned repeatedly; pulse more frequent, tongue whiter.

The second blister has done well; the glysters administered every day; the bowels were moved with considerable evacuations, by one given last night.

21st.—Omitted the pills.

22d.—Passed a tolerable night; has not vomited any blood for several days; but the pain occurs occasionally, with considerable urgency; and she was attacked this morning with a paroxysm that continued longer than any before, but no blood was ejected; indeed no effort to vomit was produced.

Tongue brown and furred; pulse still more frequent. The glysters have not had the desired effect lately; they are to be persevered in.

The pills to be resumed, and another blister applied to the scrobiculus cordis.

23d.—Three pills have been taken. Passed a tolerable night. Is exceedingly weak, and has great pain in the feet on standing. The mouth is very unpleasant; bowels still unmoved; the glysters returning without feces. A senna mixture was substituted for the pills

25th.—Did not begin the mixture till noon yesterday. She has had three copious evacuations, the first extremely offensive. This operation has produced considerabl[illegible]ment. Tongue clearer; pain much less urgent, n[illegible]; no soreness in [illegible] after the pain [illegible] still frequent and

[illegible] she has [illegible] ake and retain, is toa[illegible] er-g[illegible] milk and sugar, a littl[illegible] ex[illegible] orange-wine in very small quantities; and each of these was occasionally rejected.

30th.—Continues to improve in all respects, except appetite; she is disgusted at animal food; and her stomach will not retain the smallest portion of bread, or of the lightest pudding, given in any way.

The bowels were moved again this morning, by a little of the mixture prescribed on 23d, but she is very faint after its operation. She was ordered a mixture, with tincture of gentian and oil of cinnamon.

June 1st.—Her appetite being somewhat improved yesterday, she determined to take a small piece of bacon, though disgusted at animal food in general; it produced excessive oppression and uneasiness in her stomach, as might have been expected. Prior to this there was some degree of pain in the *left* hypochondrium, which has been aggravated, and was very urgent in the night, after sleeping on the *right* side; the pain is augmented by inspiration; pressure relieves it in some degree.

3d.—Fomentations removed the pain from the side, but Miss D. had a restless night, and in the morning vomited her breakfast; notwithstanding this, she was permitted to take a piece of toasted cheese. This want of consideration however was sufficiently felt, the stomach was shortly afterwards affected with the most excruciating pain, and consequent sickness and vomiting. There was no remission of pain yesterday and last night, and, with a continuance of the sickness, she vomited a great quantity of greenish-coloured fluid as on the 16th of last month. During my visit, the attacks of pain continue, and are described as different from any before. The complaint is certainly removed in part from the stomach; and the present sensations arise from what has so imprudently been taken and passing into the bowels.

The bowels were relieved by a clyster last night, of a considerable quantity of hardened feces, and medicines were given to procure further evacuations, and a blister applied to the abdomen.

8th.—Great alteration for the worse. Since yesterday's visit, Miss D. had such violent and sudden attacks of pain, that at each paroxysm she lost all sense and became delirious. On recovering, she was certain a repetition of an attack must have destroyed her. The comparison she makes in respect to the pain, is of a red hot body passing through her bowels to the very vertebræ. The heat of the abdomen appeared so intense, that, during her delirium, she said the bed was on fire. Her excessive sensibility to sudden impressions had so increased, that the shutting a door produced a fit of pain. She has no sickness whatever. The abdomen swells during the attacks only, and its general state is much the same. The pain in the bowels, prior to an attack, begins in the *left* hypochondrium, at the part complained of on 1st June. Pulse 132 and very small, tongue dry and dark-coloured; gums and teeth looking black; urine high-coloured, but in considerable quantity; bowels still constipated. The pills have not been taken at all.

℞ Magn. vitriol. ℥ij.
Lact. amygd. ℥viii. M.
Capt. cochl. ij. larg. om. hora constipata alvo.
Injiciatur enema ex sapone molli et aq. cum
Tinct. opii. gtt. L. dolore urgente.

9th.—Before the medicine could be sent, she had such an attack of pain, that all present were fearful of a fatal termination; indeed, the spasms and convulsion of the whole frame was so urgent, as to require the assistance of several persons to confine her in bed. On her recovering, the medicine was begun, and a glyster administered in no great length of time afterwards, which together procured two copious evacuations of hardened fæces, &c. after which she slept, and has had no return of pain; the bowels were moved a third time this morning. The body in general is very sore, and for the first time she complains of pain in the head.

The irritability of the system is greatly lessened; and the most astonishing amendment has taken place.

Pergat in mist. ex lact. amygd. et magn. vitr. 4ta quaq. horâ.
Rept. enema ut antea prescript. si opus sit.

10th.—She complains of nothing but excessive weakness. The evacuations from the intestines have been prodigious, and continued till some peas passed unchanged. The appetite was keen after the repeated motions, but the stomach rejected every kind of nourishment, with the exception of the peas, till this morning, when some arrow-root decoction and a little wine was retained. There was a threatening of an attack of pain last night, but the symptoms went off.

At present she has some increased heat of body; the pulse is also more frequent; after the evacuations yesterday it was reduced to 100. No thirst; appetite worse, the desire for food yesterday lasted but for a few hours.

Rept. mist. e lact. amygd. et magn. vitr. cras primo mane.

℞ Corticis cinchonæ ℥ß.
Cortic: limon. ʒss.
Zinzib. pulv. ʒj.
Ag. frigid. ℥vj. macera per horas duodecim, cola et adde.

Tinct. card. comp. ℥ß.
Tinct. sennæ ʒij.
Ft. mist. cujus sumat cochl. ij. 4ta. quaq. horâ dolore absente.

14th.—Slept two or three hours in the night, but early in the morning had considerable pain in the bowels. A glyster was given, after which, in one of the motions, a substance was voided of more than half a yard in length; it had, on first inspection, very much the appearance of a tape-worm, but that it certainly was not; it was a thin and delicate substance, collapsed, like a fine skin rendered tender by putrefaction.

15th.—She was in as much pain the latter part of yesterday as at any time before.

A glyster with laudanum, assisted by warmth to the abdomen, relieved her considerably.

Pergat in mistur. cum magn. vitr. &c.

16th.—A burning sensation in the abdomen, with pain, has been extremely urgent indeed. The stomach rejects every thing, the medicine, &c. but without any pain in the stomach itself. Pulse more frequent; tongue foul.

The glysters of soap and water, with tinct. opii, relieved the pain more than any thing, and have produced considerable discharges from the bowels, till the last given had no effect.

17th.—Has vomited very frequently, and thrown up again a prodigious quantity of green fluid, more offensive than before, but without any feculent smell. The breath is also very offensive. Tongue has no worse appearance; bowels not moved since yesterday, none of the medicine being retained. Pulse feeble, frequent, and indistinct. Patient in almost continual low delirium.

℞ Saponis, Jalapii ana ℈j. ft. pil viii. quarum sumat j. om. horâ.

18th.—Pain and vomiting continue; her general state of health is not worse in other respects. Belly unmoved. Two of the pills only have remained without being rejected.

Capt. pil j. statim et mist. sequent. quam primum.

℞ Ol. ricini ℥j. vitellæ ovi q. s.
Pulv. tragacanth. comp. ʒj.
Aq. ℥vj. m.
Capt. cochl. ij. larg. 2da. quaque horâ.
Adeat in baln. tepid. statim.

19th.—Took and retained three doses of the mixture before three o'clock this morning, when she vomited the quantity given at that time, and afterwards an amazing quantity of the green fluid, and more of the same this forenoon.

Pulse frequent, but not weaker. Bowels still the same.

Capt. pil. e jalapio et sapone ij. statim et rept. 4ta. quaq. horâ.

Rept. mist. ol. ricini cum aq. menth. sativ. Contin. baln. tepid. vespere.

20th.—Has had two loose motions of a greenish brown colour. She slept charmingly before these evacuations took place, and has continued free from pain since yesterday.

Pulse small and frequent; tongue cleaner; not the least return of sickness.

Rept. pil. iij. cras mane (one every hour) et post pil. tertiam cochl. ij. misturæ ol. ricini.

22d.—Sleeps well; has a return of appetite; no pain whatever; tongue clean, pulse not stronger. The bowels have not been moved since the morning of 20th.

Cont. pil. aperient. et mist.

Her diet is more particularly attended to, consisting of mint-tea, with milk and sugar, and a little egg, jellies, &c.

24th.—Has sufficient strength to bear an airing in a coach. Bowels well evacuated in the morning. Takes a little rabbit and young peas for dinner, without inconvenience.

The ride to be taken as often as possible.

℞ Saponis, Jalapii ana ℈ij.
Calomel gr. v. ft. pil. xx. capt. ij. per re nata constipata alvo.

29th.—Has been recovering daily.

Light meat is easily borne on the stomach. Bowels moved by the last pills, but not more frequently than once in two days; the motions are then copious. Leaves Kensington for the country to-day.

London.

V.

On the Treatment of Ganglia by Escharotics. By JAMES WOOD-HAM.

GANGLIA, though not frequent, are far from being uncommon; and as they always prove inconvenient to the patient, and sometimes troublesome to the surgeon, under the means usually employed for their removal, the annexed cases, treated successfully by a mode somewhat novel, will not, I trust, be unacceptable to the profession.

Case I.—Jane Matthews, aged 10, was admitted a patient of the Central Dispensary, June 14th 1808, for a ganglion situated on the right wrist. It was of the usual size, (that of a hazel nut) moveable, and had been forming about nine months. Upon inquiring of the mother whether any means had been employed for its removal, she informed us that the child had been a patient of a similar institution for three months, during which period pressure only had been made use of. As the mother was extremely desirous of having it removed, and as compression had failed, it was resolved to attempt its destruction by some stimulant application, which should act as a caustic. A blister was therefore applied to the tumor, and, having performed its office, the cuticle was removed, and the cutis plentifully sprinkled with the oxyd of arsenic in powder. This remedy was employed on the suggestion of my friend Mr Platt, who politely entrusted the patient to my care. This operation was repeated every day, till a complete eschar was formed, which took place in about ten days. To procure a separation of the eschar, and to remove the inflammation that had been excited, an emollient poultice was applied morning and evening. In a fortnight the eschar was thrown off, leaving a healthy ulcer the size of a shilling. This was daily dressed with an ointment of wax and oil, occasionally sprinkling it with nitric oxyd of quicksilver, and the patient was discharged from the dispensary cured, September 8th 1808.

Case II.—Ann Hunt, aged 14, was admitted a patient of the Central Dispensary, September 26th 1809, for a ganglion of the left wrist. It was somewhat larger than the one of Jane Matthews, and apparently divided in the middle, but in every respect similar, and had been forming fourteen months. From having experienced the good effects of the oxyd of arsenic in the former case, it was determined again to make trial of it, and, on the 27th a blister was applied, the following day the cuticle was removed, and the cutis sprinkled with the oxyd. This process was continued daily for about the same period as in Case I. An emollient cataplasm was then applied, and repeated till the slough separated. The ulcer was dressed simply, with the occasional use of the nitric oxyd of quicksilver, and she was dismissed cured from the charity, December 2d 1809.

The only remarks I have to make on the above cases are, that the inflammation excited by the application of the arsenic in the first case, did not extend further than about an inch round the tumor, and that the patient took no medicine during the cure; but that in the second, from the surface to which the arsenic was applied being more extensive, a considerable degree of inflammation

tion occurred; the hand and arm were much swollen; and the lymphatic and axillary glands sympathised. No other inconvenience, however, was experienced, nor had the patient occasion to take any medicine except an aperient or two. The ulcer in each case, as appears, was tardy in healing, and the nitric oxyd of quicksilver was used merely as a stimulus.

London, Feb. 14*th* 1810.

VI.

Observations upon Ulcers of the Leg. By John Webb, Surgeon.

As no disease has so often been considered the opprobrium of surgery as ulcers of the leg, I flatter myself, that any mode of treatment, which should carry with it plausibility, would merit attention. I have drawn together the following observations, with an attempt to explain the principle which should be kept in view in the treatment of that species of ulcer which Mr Home has decribed, thus: " Of ulcer, in parts whose actions are too violent to form healthy granulations, whether this arises from the state of the parts, or of the constitution." It is my intention to prove, that it arises from the state of the parts, and that the constitution is affected from the local disease. I draw this conclusion for the following reason, that such an ulcer is to be cured by local means only; and as the local disease assumes a healthy action, the constitution will resume its original vigour. The characters of the irritable ulcer are so well known, that it would be absurd, at present, to attempt a definition. The worst cases which have come under my care, have been attended with the following character: the constitution is affected with debility; the digestive powers are impaired; the function of the liver is diseased; the circulation is hurried; an anxious watchfulness is depicted upon the countenance; and, from the general irritability which pervades the whole constitution, the patient is seldom relieved by the soothing tranquillity of sleep. As it would be too prolix for my present purpose to enter into a minute detail of particular cases, I shall quit that part of the subject entirely, and say a few words as to the mode of restoration which is usually employed. The most frequent applications are poultices and fomentations. The compositions are extremely various: the common bread and water poultice appears to be that which is generally preferred, and, in my opinion, possesses every good quality that can result from any. A diversity of sedative applications are invariably had recourse to, both with a view to satisfy the mind of the patient, and the attendant himself. The motives which induced me to depart from the regular routine of practice, were from a case where every known application had been tried, without procuring the wished for effect.. Here the constitution was greatly disordered. In this case, the applications which alleviated the sufferings of the patient most, were fomentations and poultices, seeing the sufferings of the patient were quelled for a certain time. I was led to consider why the poultice should act thus beneficially for *a time*, and no longer, and this whether the application, was warm or cold. The conclusions which I drew, were, that the *secreted pus* must act as an irritating cause, and the patient was easy as long as the poultice *absorbed the secreted pus*, and kept the surface of the sore clean, and not from the sedative effect of the application, as is generally supposed. The next visit, I dressed the ulcer with two folds of dry lint, over which linen was to be kept wet, with an evaporating lotion, to allay the surrounding inflammation, and keep the edges of the lint from adhering to the sides of the ulcer, which was to be removed immediately when the patient experienced any pain, and fresh dressings to be substituted. The success which attended this practice surpassed my most sanguine expectations. In the short space of ten days, an immense chasm was filled with strong healthy granulations; the edges under this treatment were kindly cicatrizing; a diseased constitution was rapidly restored. As all vestiges of irritability had ceased in the ulcer, and as the pus was now no longer to be considered as an *irritating matter*, straps of adhesive plaster were applied in the usual manner, to accelerate the cure. From this period the sore did extremely well. From this success, and as I had ample opportunities of extending such a practice, I did so, in varied forms—I mean, by absorbing the pus by different applications. Finding that every advantage was derived from the lint, and from its simplicity and ease of application, I have, in the cure of the irritable ulcer, adopted it with like good success. In some cases, where the constitution was greatly affected, I attended to the local disease only; yet, as a general practice, I should hold it good to pay a proper attention to the constitutional derangement. I have extended this plan in the treatment of ulcers, where the *secreted pus* can be considered as an *offending substance*. The conclusions which are naturally drawn from these facts, are, that the *well-doing* of every ulcer, which secretes an *irritating sanious* matter, must depend upon its immediate *absorption*, and that it is a subject of indifference what means are employed which have the same effect. I shall conclude, in saying, the observations I have laid down, are not the result of a few cases which might occur in the private practice of an individual, but from the routine of a large hospital.

Bath, January 25th, 1810.

VII.

Observations on Elephantiasis. By Arthur Edmondston, M. D. Fellow of the Royal College of Surgeons, Edinburgh.

While some diseases are the objects of our daily attention, there are others scarcely known to us but by name. We are indeed aware of their existence, but conceive, that the period of their prevalence in our own latitude, at least, is either for ever past, or that we shall never visit the countries in which they occur. Engaged with points of personal concern, we are but little disposed to enter on pursuits, of which the utility is remote; and in the indolence to which procrastination gives rise, perhaps never engage in them. But, in the fluctuating vicissitudes of human life, it is impossible to conjecture what changes may take place, or how soon these diseases may reappear among us; or it may be our lot to remove to the countries in which they are endemic.

It therefore becomes the duty of the medical philosopher, to investigate the nature of every morbid affection to which the frame is liable, and of which we are possessed of a history; and while he devotes his chief care to the diseases which more immediately fall under his observation, to bestow a portion of his time in the study of those less generally known. By such a course of study, his view of organic action will be enlarged, his ideas of disease rendered more comprehensive, and his mind prepared for every contingency.

Elephantiasis appears to have made its appearance first in Egypt, and in Syria, and afterwards in Greece. Hippocrates and Galen have both described it, and they seem to have viewed it as a cancerous affection of the general system. It received the Greek name ελεθαντιαν, from the dun yellow colour, and the rough and thickened state of the skin, which in some measure characterize this disease, and which has been supposed to resemble that on the body of an elephant. The *elephantia* or *lepra Arabum,* appears to be the same general disorder, with the additional symptom of swelling of the feet, which, in that state, have been thought to bear some resemblance to those of the same animal; and this symptom, therefore, is a source from which the name is sometimes derived.

Lucretius asserts, that this disease was endemic in Egypt:

> " Est elephas morbus, qui propter flumina Nili
> Gignitur Ægypto in media, neque præterea usquam."

Celsus, who, under the name *elephantia*, has given an accurate description of elephantiasis, says, that although very frequent in other countries, it was almost unknown in Italy in his time. Pliny states, that it was brought to Italy from Syria, by the soldiers of Pompey's army. He, too, considers it peculiar to Egypt, and relates a horrid custom which was practised when the monarchs of that country had the misfortune to be affected by it. Diximus elephantiasin ante Pompeii Magni ætatem non accidisse in Italia. Ægypti peculiare hoc malum: et cum in reges incidisset, populis funebre. Quippe in balneis folia temperabantur humano sanguine ad medicinam eam *.

The Chevalier Bach, in a letter to Von Troil †, observes, that elephantiasis was brought to Europe, for the second time, by the Crusaders, in the twelfth century, and that it disappeared both in France and in England, in the seventeenth century. From the twelfth to the seventeenth century, it raged in many different parts of Europe, and lazar-houses were erected to aid in effecting its extinction. It early found its way into Norway, Iceland, and the Feroe Islands, as appears from several antient documents. According to Lucas Debis ‡, it prevailed very generally in the Feroe Islands about the year 1670; and forty years ago, it was very universally spread over Iceland, when Von Troil visited that country.

Between sixty and seventy years ago, elephantiasis was very frequent in the Zetland islands, and it was known there by the name of *leprosy*. The unfortunate individuals who were seized with it, were removed to small huts erected for the purpose, and there received a scanty allowance of provisions daily, until the disease put a period to their miserable existenee. The parish of *Walls*, and the island of *Papa Stour*, on the west side of Zetland, appear to have been among the places in which it raged with the greatest malignity. " The session records mention, that a day of public thanksgiving was observed in the ministry, in the year 1742,

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* Hist. Natur. lib. xxvi.
† Von Troil's Letters on Iceland.
‡ Description of the Feroe Islands.

1742, when this disease (the leprosy) was almost extinguished *."

Nosologists have arranged elephantiasis differently, according to their ideas of its nature and causes. Sauvages places it in the class Cachexiæ, and in the order Impetigines. Cullen has adopted this classification, which appears to be unexceptionable, and his definition of the disease is comprehensive and perspicuous †.

The symptoms have been found to be much the same, whether the disease occurred in Egypt or in Iceland, in England or in Japan. It indicates its existence in the system, by fetor in the breath, and dryness of the skin, which continue, in some instances, a considerable time without exhibiting any other marks of its presence. As the disease advances, the patient becomes listless and drowsy, and is fatigued by slight degrees of exertion.—He feels constantly thirsty, but his appetite is irregular, and he is observed to prefer sour, and even putrid food, to more wholesome aliment.

While these symptoms go on, the face and other parts of the body swell; the hair falls off; the skin becomes thick, rough, and scaly, assumes a sallow, yellow colour, and appears sometimes as if it had been rubbed over with grease. Small elevations occur in different parts of the body, particularly on the face, which form spreadiug ulcers, having a dusky red margin. The external senses, especially those of sight, smell, and touch, gradually become weak, and, on some occasions, are altogether lost; and the voice acquires a hoarse, nasal, and disgusting tone. The pulse is in general slow, and often languid; but the skin, although among those parts of the body which are most severely affected by the disease, is not peculiarly sensible.

The disease remains in this state often for several years, but sooner or latter the symptoms progressively become worse. Indeed, when it has been once engrafted in the constitution, recovery need not be looked for. Tumors rise on different parts of the body; burst and discharge a fetid corrosive matter; the legs and feet, in particular, swell, and acquire a preternatural appearance; the gums bleed on the slightest touch; a hectic fever, with great debility, ensues, and the patient sinks under this accumulation of evils.

A few years ago, a native of Zetland was received into the hospital of Edinburgh, labouring under true elephantiasis. I have

repeatedly

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* Statistical Account of Walls and Sandness, Vol. xx.

† Morbus contagiosus; cutis crassa, rugosa, aspera, unctuosa, pilis destituta: extremis artubus *anæsthesia*; facies tuberibus deformis; vox rouca et nasalis.

repeatedly seen obscure degrees of it in that country, where the face was bloated, the skin scaly and rough, the legs and feet swelled, and the voice hoarse; but the cases did not terminate fatally, nor was the affection apparently communicated to others. The last instance I saw of it was in the person of a boy of fourteen years of age. His friends could assign no obvious cause for its occurrence, and said that it had come on spontaneously, and proceeded gradually. The disease had been stationary for some time before it fell under my observation, but I have not been able to learn the event of this case.

Elephantiasis is observed to be hereditary, and to be transmitted to children for successive generations, without extending itself to individuals living under the same roof, or even to all the offspring of the same parents; nor does it seem to propagate itself by infection, unless in those cases where a matter is generated and discharged from the sores. This is the certain medium of communication; and an inattention to this circumstance has frequently given rise to contradictory views of its nature.

From exhibiting such variety in its symptoms, elephantiasis has been frequently confounded with other diseases. Boerhaave considers it as scurvy in its more aggravated stages, and in Iceland, and the Feroe Islands, the lighter shades of it are known and described under the general name of scurvy. But salt and rancid meat, and a scarcity of vegetable matter, which might have concurred in Feroe, Iceland, or the Zetland islands, to give rise to scorbutic affections, were not likely to take place on the banks of the Nile, or in the more cultivated countries of Europe, where religion enjoined the use of a vegetable diet. Mr Larrey*, a late writer, has revived the idea, that the use of salted meat and fish, and unwholesome animal food, especially pork and wild boar, are principal exciting causes, both of the lepra and elephantiasis, which at present occur in Egypt. But his views are meagre and unsatisfactory; and he confines his details to symptoms which are not essential to the appearance of genuine elephantiasis. Had this affection been produced by known external causes of this kind, its extension in Italy, France and England, at least, might have been easily prevented. Besides, scurvy is neither hereditary nor infectious; is, in almost every instance, produced by obvious external causes; does not affect the voice; and is cured by vegetable aliment.

Elephantiasis is more likely to be confounded with *lepra*, and, indeed, they have been described under the general name of *lepra* by medical writers, in almost every age. The true lepra, however, appears to be confined more to the surface of the body, producing these circular patches of a reddish colour, and throwing off successive scales. It does not take so deep a hold of the system as elephantiasis, and is not, as has been supposed, necessarily converted into the latter disease. It communicates to the skin a rough white appearance, attended with an itching sensation, and it is seldom propagated by infection. The *Lepra Grecorum* seems to have very much resembled some of the species of *Psora*; while the *lepra Arabum* is the elephantiasis of the Greeks *.

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* *Relation Historique et Chirurgicale de l'Armée d'Orient en Egypte et en Syrie.*

Frambœsia and *Tricoma* exhibit, in different states of their progress, symptoms similar to those which occur in elephantiasis. The former partakes obviously of the nature of lues, of which it appears to be a modification. Tricoma, like elephantiasis, is infectious, but it seems to be more nearly allied to *tinea capitis*.

Although thus differing as a whole from these similar affections, elephantiasis partakes more or less of the nature of them all; and it is often difficult, especially in its early stages, to state with precision the discriminating shades of actual difference. Some are produced, and all of them are aggravated, by inattention to cleanliness, continued exposure to severe degrees of cold, and the want of a fresh, nourishing, and vegetable diet. A minute degree of attention, therefore, to the diagnosis in this case, is often more useful in turning the mind to the subject under investigation, than as leading to much practical benefit in the treatment.

The primary causes of elephantiasis have never been explained; and I confess my inability to remove the veil by which the subject is obscured. I have already alluded to those exciting causes which could have been supposed to have aided either in producing or maintaining it; but they appear to be inadequate singly to account for the phenomena. That it was propagated by infection cannot, I think, admit of a doubt. We have seen that it prevailed very generally in the Zetland islands about sixty-five years ago, and all the inhabitants were deeply impressed with a conviction of its contagious nature; and the history of the disease but too well confirms the accuracy of the opinion.

From these considerations, we may view elephantiasis as a contagious disease *sui generis*, although we are unable to trace the combination of powers which produced it. It appears to have existed first in Africa and Asia, those fertile sources of pestiferous affections, and to have been gradually extended from the southern to the northern parts of Europe. It is extremely probable that it found its way into the northern islands already mentioned, either through the medium of Norway, or in consequence of the direct intercourse of their own inhabitants with Palestine and the neighbouring countries. All these islands were long subject to the crown of Norway; and the successive noblemen who, for many centuries, possessed a sovereign influence over Orkney and Zetland, frequently made pilgrimages to the East, in which they were attended by numerous followers. The comparatively rare communication between these islands and Great Britain, at that time, and the early appearance of elephantiasis in them, favour this opinion.

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* Numerous authors, both ancient and modern, have investigated the subject of cuticular affections, but none more minutely, nor so successfully, as Dr Willan. In his "Description and Treatment of Cutaneous Diseases," (Order II, Scaly Diseases) will be found several interesting observations on the difference between lepra and elephantiasis.

Characterized in some measure by a septic tendency in the system, its malignity would be readily increased by inattention to cleanliness, and the want of a sufficient quantity of vegetable aliment; and this appears probable, from the circumstance of its attack being confined chiefly to the lower classes of people. Ignorance of its nature would enhance the idea of horror connected with it, and, by withholding from its victims the assistance which they required, contribute to increase its mortality. But a beneficial change in the manners and sentiments of those most obnoxious to its influence, has already tended greatly to weaken the force of the infection producing it, and a steady perseverance in the same regimen may ultimately destroy it.

On the subject of the cure of elephantiasis, little satisfactory, I am afraid, can be offered. At present it occurs chiefly as an hereditary affection, and it has therefore taken a firm hold of the constitution of the patient before it becomes the object of medical investigation. Unacquainted either with the nature of the virus producing it, or its mode of operation, we can do little more than recommend such articles of regimen as appear to check the progressive advance of the symptoms.

With this view the warm bath, as determining to the surface; frequent changes of linen; moderate exercise; avoiding sudden vicissitudes of temperature; the use of light nutritious food, of which a considerable proportion consists of vegetables, fruit, and wine, constitutes the points chiefly demanding attention. To co-operate with these, we may employ gentle, but efficient laxatives, and, occasionally, diaphoretic medicines. The oxyde of arsenic, taken internally in small doses, has been found useful in moderating some of the symptoms.

When the affection is recent, I have little doubt that a perseverance in such a course would contribute to arrest its progress, and might, perhaps, so far destroy the influence of the disease in the system as to prevent its transmission to children.

To counteract the corrosive effects of the matter discharged from the sores, as well as to lessen the disagreeable sensation occasioned by the unctuous state of the skin, the surface of the body should be washed frequently with some saponaceous solution, or with lime-water in a tepid state. The ulcers ought to be regularly dressed with an absorbent ointment, as the unguentum oxidi zinci, (Ph. Ed.) and when the legs and feet swell much, they should be supported by adhesive straps and proper bandages.

As this disease is not only accompanied by symptoms of general debility, but exhibits indications of something approaching to the nature of lues; while we endeavour to invigorate the system, and correct the putrescent tendency in it, might it not be advisable to employ at the same time an alterative course of those preparations of mercury which part most readily with the oxygen, such as the acetite and grey oxyde of that metal? Such medicines appear to be better suited to the nature of this complaint, than the preparations of mercury in common use, as, without weakening, they would gently stimulate the system, determine to the surface, promote absorption, and might conduce, perhaps, in diminishing the influence of the principle which maintains the disease. The oxygenated muriate of potassa, and the nitric acid, might be given with the same view. A similar plan of treatment is found to be successful in the cure of a spurious kind of syphilis, which prevails at present in several parts of Italy.

VIII.

Observations on the Treatment of the Sick returned from Corunna.

By B. G. B.

In your Journal for October last, which I have but just seen, I read with considerable interest a detailed account of the diseases of the sick soldiers who were landed from Corunna. Any thing relative to the gallant army of Sir John Moore could not fail of exciting my curiosity; their bravery and sufferings in Spain have alternately produced emotions of admiration and sorrow in every mind at home. It was therefore very natural for all to be still anxious about these brave men, and to read with no common eagerness every thing connected with their welfare. This was the sort of feeling with which I began the perusal of Mr Hooper's statement; and happy should I have been if his information had convinced me that all the sufferings of this meritorious army had ended with their departure from Corunna, or upon their arrival in England: it is, on the contrary, our great concern to know, that in consequence of their previous fatigue, exertion, and privation, it was the misfortune of a great number to experience a sad reverse, and to become the victims of typhus fever and dysentery.

According to Mr Hooper's report, many were landed at Plymouth in a state of considerable disease, and others afterwards became ill partly from infection and from their former sufferings. The most prevailing diseases on their first arrival were typhus and dysentery, and the latter complaint, in many instances, of a very severe kind, and producing great mortality; the more aggravated sort scarcely ever yielding to any description of treatment, although very decisive and persevering attempts were continually adopted for its mitigation.

The fever, though at first the mildest of the two complaints, afterwards became the most terrific, and proved exceedingly destructive. On the treatment that was adopted in this disease I wish to make some observations; and if I should differ therein from Mr Hooper, I am sure he possesses too much intelligence not to receive my remarks without offence. I am also certain that he is, with myself, too much interested about the improvement of the practice of medicine, and, above all things, about the health and comfort of our deserving armies, not to receive with candour, and even thankfulness, any hint that may possibly prove serviceable to the faculty intrusted with their preservation.

I shall confine my observations to Mr Williams' case, because it is the one most minutely described, and it is a case also that a medical man cannot help feeling somewhat the more interested about, as he was a fellow labourer in the same profession, and his case is given by Mr Hooper more particularly, as an example of the fever which generally prevailed.

Monday, March 6th.—Mr Williams complains of an increase of pain in his head, which pain he felt yesterday for the first time, after having assisted two medical friends in the opening and examination of two bodies. He took fifteen grains of calomel both yesterday and to-day, and no stool.

On the 7th vomited all night; increase of headach; great pain in the eyes, with other symptoms of fever; pulse, 86 strokes in the minute, *full and hard; sickness still continuing;* an emetic was advised. Six grains of tartarised antimony were dissolved in six ounces of water. Of this solution four ounces were taken, which, with the aid of warm water, acted copiously. His stomach after this appearing tranquil, he again takes fifteen grains of calomel; this remaining on his stomach, in the afternoon a bason of tea was given him and a little dry toast, which, after much persuasion, he eat: it remained only a short time, and was thrown up. In the evening he took twelve grains more of calomel and one of opium, and, after this dose, a small quantity of chicken broth, which was also thrown up about three quarters of an hour after. On the next day the symptoms were as follows:—*head aches as before*; *extreme impatience of light; face much flushed; pulse hard and full,* and rather more frequent than yesterday; skin very hot and dry; tongue covered *with white fur; no stool;* water high-coloured and offensive; sickness still remaining. In this way he went on for the first five days, with little variation in the symptoms, setting aside their having become more violent, and *the patient still remaining without any evacuation per anum.* On reading the above statement with attention, it is almost impossible to avoid being struck with the analogy which the appearances of the complaint bore to phrenitis; at least there can be no hesitation in saying, that the brain was very powerfully affected, and that the disease in the onset was completely of an inflammatory description, and the extreme irritability of the stomach the consequence of the disordered state of the brain. Who, therefore, cannot but lament, that this poor man, for the first three days of his illness, should have committed his recovery to the chance of calomel alone? On the third day, because he had vomited all night, and his head was still more affected, an emetic mixture was prescribed. Now, on what principle the latter was given, under the existing circumstances, I cannot conceive. There was already too great a determination to the head, and the stomach in a dangerous state of irritation, and which became afterwards so great, that the chance of relieving the patient by internal remedies was totally precluded. With the brain affection, and symptoms of powerful reaction from the very beginning, it is surprising that the only means which offered a chance of relief was neglected. Had copious bleeding been instituted in the first place, I think there is little doubt but it would so far have relieved the brain immediately, as to have allayed the disordered action of the stomach also, and thereby have afforded an opportunity of giving such purgatives as would still further have tended to reduce the fever; but, instead of doing this on one of the first three days, when the other remedies had failed, an alteration

tion was made; and because the emetic and calomel alone did not succeed, *opium* was added to it, and which was afterwards frequently repeated,—et inde omnia deteriora ibant usque ad mortem.

With this state of violent fever, and very probably inflammation of the stomach as well as brain, from the continued vomiting, I think there can be no justifying the giving of opium at this time. Mark the effect; it was given on third day, the bowels still obstinately confined; next day no sleep all night; head aches as before; *extreme impatience of light*, &c. Surely here is a symptom of inflammation of the brain, if it did not exist before, or something like it. I am sure, if all these symptoms of injury of the brain had been the consequence of external violence to the head, that the medical gentlemen attending Mr Williams would have proceeded differently; there would have been then no sparing of the lancet, no opium given, no neglect of taking blood from the head, or of using cooling applications to it. But, with all the appearances of the same mischief that required this mode of treatment, it was unfortunately neglected, and for no other reason, but because it was not produced by the same cause. For the first two or three days this gentleman principally managed himself, and in which time the greatest opportunity of doing good was lost; therefore Mr Hooper, and the medical gentlemen attending him, are by no means responsible for the treatment during that time: but I must observe, in the treatment of some of the other cases that are detailed, that there appears too great a desire of discovering something like a specific for fever, to the very great neglect of obtaining evacuations. Calomel seems to be regarded in this way, and is abundantly employed, with a view of producing some peculiar irritation on the system, that will arrest the progress of, or remove the complaint.

Whatever this medicine may do after evacuations have been premised, I feel certain of one thing, that it will never supersede the necessity of evacuations in fever; and I question very much if its good effects in fever, and in all inflammatory complaints, do not depend upon its evacuating qualities. Those, however, who attempt to cure inflammatory fever, or inflammation, by any other means than by evacuations of some sort or another, will lose many an opportunity of doing good; and, in confirmation of this opinion, I will quote the authority of the very learned Dr Friend:—" Hoc unum tibi spondeo te experiundo comprobaturum, quod scilicet ex febribus multæ evacuantibus solis, etiamsi haud alio fueris remedio usus, cedere consuescant: vix ullæ autem, quæ paulo vehementiùs invaluerint, medicinâ qualicunque, si ab hoc evacuandi instituto decesseris, restingui possint *."

Dr Friend here observes, that many fevers will yield to evacuation alone, where no other remedy is used; but scarcely any will be removed, when the fever is great, by any remedy whatever, if evacuations have not been employed. In this opinion I most heartily concur; and would strongly advise, in all cases of fever, where the head is powerfully affected, and there are great symptoms of fever, with strong pulse, that there should be no time lost, before copious bleedings are instituted, and afterwards evacuations by the bowels. I have no hesitation in saying, where this plan is speedily adopted, that the most beneficial effects will generally result, and that a great many cases of inflammatory fever, which would otherwise have ended fatally, or become putrid, and have been protracted for a fornight or three weeks, or even longer, will by this system terminate favourably in a week. When bleeding does not appear to render the benefit in fever that we previously expected, it often happens, from this cause, that it is not carried to a sufficient extent; and where the fever is so violent as not to give way, after three or four copious bleedings from the arm, and the strength still allowing a further loss of blood, I have often experienced, in my practice, great good result from bleeding in the jugular vein; and it is a kind of bleeding that would often be productive of great benefit, in all cases where the head is much affected, from fever, inflammation, or congestion; and I do believe that there is sometimes so great a determination of blood to the head, that it is almost impossible to lessen it effectually by bleeding at the arm. In such cases, I have seen blood taken from the jugular vein, or temporal artery, with the most signal advantage.

That the treatment I have been here recommending for inflammatory fever, for of this kind I judge fevers generally are, in their commencement, in this country, would have proved useful in the disease described by Mr Hooper, I may fairly infer, from the following quotation from his statement, page 415: "I do not mean to assert, that calomel is an efficient remedy for every, or any particular kind of fever; but I mean to say, that those who laboured under this contagious fever, and were treated with calomel in the large way described in this paper, did much better than those that were treated with antimonials, wine, bark, &c. Indeed, the two last named medicines appeared to me to be

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* Dr Friend's Commentaries on the first and third book of Hippocrates on Popular Disorders.

be highly improper, *as the pulse continued almost to the last day full, hard, and bounding, more like an inflammatory than a debilitated pulse.*" With this evidence of an inflammatory diathesis before his eyes, what a pity that, in addition to the calomel, the evacuating plan was not adopted; particularly as, from his own statement, they were not very successful in treating this complaint. That it would have succeeded better, I judge both from my own experience, and likewise from the testimony of Mr Hooper himself, who states, "that a Mr Stevenson, surgeon of the 3d Lancashire militia, in addition to the practice generally adopted, used large and repeated bleedings, which a reference to the proportion of sick at the hospital under his care appears to justify." On a reference to the list, I observe, that Mr Stevenson lost about one-third less. Out of 157 patients, the deaths amounted to *nine* only; whereas, by the other practice, out of 306, there were 28 deaths. This surely must point out very fully the propriety of his practice, and the superiority of the bleeding system.

Indeed, until medical men in general are less alarmed about debility, I shall despair of ever seeing a rational treatment of either fever or inflammation; for the practice of what is called throwing in bark, and giving stimulants, to obviate debility in such cases, has been hitherto so universal, and so destructive, that a more judicious practice will be many years in debt, before it shall have made a sufficient compensation to the public for the disasters of the former.

Were it a mere matter of unimportant speculation, which of the two theories was here correct, I should not have troubled myself or the public with this inquiry; but when I considered that the lives of hundreds of our brave troops may hereafter be dependent on a correct knowledge and treatment of fever, I feel myself powerfully impelled to make the preceding observations: and if the Faculty, in the army or navy, who have the greatest opportunities of appreciating the merits of such practice, will *fairly* try the one I have recommended, namely, the antiphlogistic plan, and be less anxious about debility, I feel an assurance, almost amounting to conviction, that it will be attended with the most abundant success.

Medical men, in the army more particularly, should also consider, that the subjects of fever with them are young men, and men in the greatest vigour of life, when they are more likely to be of an inflammatory habit; consequently there should be more anxiety to counteract this at first, than to obviate debility, to which, in the first instance, there is generally the least disposition.

Clifton.

IX.

IX.

Case of Tetanus, with appearances on Dissection. Translated from Stoll, *with Observations, by a Naval Surgeon.*

I have been induced to send you the following case of tetanus, translated from the Medecine Pratique of Maximilian Stoll, chiefly on account of the appearances found on dissection. Few dissections of tetanic subjects have, I believe, been recorded; and as the work from which this is taken may not be in the hands of many of your readers, I think the case sufficiently important to merit a place in your Journal. I am the rather induced to publish the dissection, as I have been informed that Mr M'Arthur, surgeon of the Naval Hospital at Barbadoes, has, in some dissections which he has made of subjects who died of tetanus, detected appearances analogous to those observed by Dr Stoll in the following case. This is a curious, and, in the present state of our opinions, perhaps, an unexpected fact; but as it is a fact, and one which, if found general, may greatly influence our practice, it deserves to be made as public as possible, in order that future and more ample observation may confirm it as a general or necessary attendant on the disease in question, or prove it to be only accidental and adventitious.

" A shoemaker, eighteen years of age, who had till then enjoyed a good state of health, on the morning of the 5th May, complained of a continued oppressive pain in the nape of the neck, stretching along the spine; and also of an oppression extending along the sternum, from the neck to the pit of the stomach. During the night he perspired abundantly. On the 6th, things were in the same condition, only there had supervened a slight spasm of the lower jaw, of a few minutes duration. He passed a restless night, and perspired copiously. The 7th, the day of his entry into the hospital, he had a strong sensation of heat in his temples; his tongue was very foul, with a tint of yellow; his breath was very sour to the smell; and he informed us, that, ever since the commencement of his complaint, he had had a very bad taste in his mouth. The pain in the neck, and oppression of the breast continued; pulse quicker than natural; belly bound; took no meat to-day; a little of a neutral salt only being added to his drink.

8th.—He was stiff, the whole muscles of the body being in a state of almost continual spasm, with frequent fits of increased violence, but without there being ever a complete remission; so that, at one time, he seemed to labour under an opisthotonos, and, at another, under an universal tetanus. There was more fever present; the urine yellow, and troubled, depositing a very copious sediment. Great thirst; tongue much loaded; mouth bitter; breath sour. The bowels, which were obstinately costive, were emptied, first by an oily, then by an irritating injection. A purging draught, composed of manna and Epsom salts, taken in two doses, produced three copious stools. During the night he slept none, and had two attacks of epileptic convulsion, in which he bit his tongue several times. When the fits were over, he tossed himself about, crying aloud, and as if it were bellowing.

9th.—Some fever still; pulse quicker than natural, but soft; heat not so great; tongue foul; thirst. Oppression of the breast gone; and he appeared to reply with a smiling countenance to those who spoke to him. Urine, when passed, resembled beer, but soon became turbid, and then let fall (to the extent of one-half of the whole) a sediment of a reddish-white colour, while a mucous matter floated above, and adhered to the sides of the vessel. This day the agitation and convulsions of the muscles of the neck and thorax were more moderate, but the belly became hard as a piece of board; and he was seized with a pain in both his groins, and with one very acute about the umbilicus; which last attacked him suddenly, and came on frequently. During the presence of this pain, the body was bent backwards. It was, however, of short continuance, at least in its violence. Towards noon, he fell suddenly into convulsions; during the continuance of which, respiration was for a long time suspended; these being followed by lividity of countenance, foaming at the mouth, and, finally, a trembling, or rather a spastic stiffness of the muscles, he expired.

I examined the pulse during the epileptic paroxysm; it was small, scarcely perceptible, and not quick; then becoming weaker, but still preserving the same degree of frequency, it finally disappeared.

Examination of the Body.—The *lungs* were sound; the left lobes being rather fuller of blood than usual. All the *intestines* were distended with air. The jejunum was of a livid-red colour, and contained some lumbrici. The colon, to the extent of a span, just before it terminates in the rectum, exhibited its vessels larger and more numerous than usual; they were all of them of a very red colour; some of them livid: a large portion of the mesentery, to which this intestine adheres, was of the same colour. Was this inflammation? Or was it merely *bruise* (meurtrisseure) or congestion of blood, but not inflammatory, produced by spasm? I know not. The omentum was redder than natural; the mesenteric glands were larger than they commonly are, and appeared injected with blood. The liver was rather soft.

Were the worms the cause of the disease? or was it some other acrid matter lodged in the intestines, or in some other part of the body? Here all is obscurity."

It does not appear very probable, that the worms, in this case, were the cause of the complaint; and if we search for it in any of the morbid appearances found after death, the diseased state of the intestines certainly offers one more probable.

From the appearances observed in a single case, we cannot, without sinning against the chaste spirit of induction, conclude, that the inflamed state of the intestines was the cause of the tetanus; but when we find the same thing to have been remarked by others, the observation becomes of more importance, and, in the light of cause and effect, assumes a higher tone of credibility.

His Majesty's Ship ——, at Sea, 7th June 1809.

X.

On the degree of Importance which should be attached to the Functions of the Uterus in regard to Health. By Mr A. Fogo, Newcastle.

Gentlemen,

I have always differed in opinion with medical writers on the subject of the very great importance of the functions of the uterus. That simple, passive, accommodating organ, has had more importance attached to it, than has fallen to the share of all the other organs taken together. That important organ, that important secretion, that important discharge, that important time, when an important change takes place in the system, are high-sounding expressions, which stun our ears, and stare us in the face in every page of the writings of physicians when on this subject. The simplicity of its structure being known to every anatomical reader, need not be pointed out. It is also a very passive organ. When the balance between the solids and fluids is well adjusted, when the female is in good health, at a certain age, a small quantity of blood is effused from the dilated extremities of the exhalent vessels, which returns at periodical times. This merely shows, that the evolution of the organ is complete, and that the female is capable of being impregnated, and of producing one of her species. The same circumstance, in an inferior degree, takes place in every female animal we are acquainted with. If the fluids are deficient, the exhalents allow none to be effused. Did this effusion issue from complicated bodies called glands, it would have been entitled to more important consideration. It cannot be called a secretion; there is no alteration made in the fluid, as happens in all the organs called glands. It is a simple effusion of real blood, unchanged. Secretions from the various glands are very different from the blood which enters them; some insipid, some bitter, &c. But how these secretions are effected, the microscopic eye of the anatomist has never been able to detect. It also differs from glandular secretions. While the female is in health, the various secretions and this effusion go on; but, on the system being reduced by disease, the glandular secretions continue, though in smaller quantity; this effusion stops, nor can it be restored till the system is replenished.

I have said it is an accommodating organ. It can be extended till it can contain one, two, or more gallons, for several months; and, soon after being emptied, it contracts to nearly its original shape and size. It is on such occasions alone that it may be called a truly important organ. On all other occasions it is the least important of any organ of the same size in the system.

When the functions of any organ are destroyed, the organ may be said to be destroyed; it then exists as no better than if removed from the animal. We have daily experience of the functions of the uterus being destroyed in the largest and in the smaller domestic animals. So far from the animal being injured with regard to health, that it grows fatter and thrives better, is happier without, than with these functions. The organ has been removed by the knife without occasioning the death of the animal. So much for its unimportance!

I will place this subject in another point of view. The female enjoyed the best health and spirits from birth, till she arrived at the age, called of puberty, suppose fifteen years. At this period an effusion of a small quantity of blood took place from the organs of generation, and which returned, at periodical times, till she arrived at another age, say forty-five; the effusion then ceased at once, and never returned. What was the consequence? Nothing at all. Did she fall into a bad state of health? No. Did she die? No. She continued in good health for thirty years more, and died of old age. Instead of suffering any injury from the cessation of the effusion, she was happier and more comfortable without it. I now ask a question, I hope without any impropriety, as it is chiefly to gain information. Of what use or importance was this effusion during the best thirty years of the female's life? I confess I cannot see any; I must be understood to mean with regard to health or disease; and, as mentioned above, if an animal lives as well or better without this effusion than with it; and as the female lived as well without it as with it, Where is the wonderful importance so universally attached to it? Would the female have lived as long and as healthy if any of the other organs in the abdomen had lost their functions? She was perfectly well on the day before the effusion appeared; she was as well on the day after it ceased for ever. I cannot, therefore, see any connection it had with her health. It may be said, that it was a proof of good health. That it was the effect of good health is certain; but it is as certain that it was not the cause.

What shall we think about the organs of generation of the male being destroyed? Their functions commence about the same age, and they are certainly synonymous in their importance, or rather unimportance, and uses to those of the female, and also in their effects on the system. But if a male at any time of life loses his health, the physician never inquires after his organs, whether there is any effusion or none. In the female the functions were destroyed; so are they in the male by removing the principal parts by the knife. We have here an addition to the number. We have one of the rational part of the creation who may be able to resolve any question on the subject. From them, down to the chicken on the dunghill, the several parties, male and female, live and grow better, and equally healthy, or more so, than those do who enjoy all their apparatus.

From all which it appears evident, that the organs of generation of either sex, have no effect on the health, so as to make it better, but often occasion great misfortunes:

"*Militat omnis amans, et habet sua castra Cupido.*"

Dr Cullen found great difficulty in accounting for the first appearance of this effusion, and as much in accounting for its suppression or retention (the cause of both is identically the same;) and taking the effect for the cause, through the whole chapter on amenorrhœa, gives no satisfactory or practical information. His very indelicate advice for the cure or removal of the suppression, to say no worse of it, is very unsatisfactory, and, formed upon wrong principles, must be often unsuccessful.

About six years ago, I published observations on the opinions of ancient and modern physicians respecting this subject of amenorrhœa; and, since that time, I have had daily proof of the justice of them; nor have I had any reason to depart from, or change, any part of the theory, or the practice established on that theory. And as the practice has been uniformly successful in several hundred cases, there can be no occasion to form any other.

The foregoing remarks occurred on reading a paper in the Ediburgh Journal, No. XXI.; in which I am greatly mistaken, if the writer has not fallen into the same error, as mentioned above, of taking the effects for the cause. He has fixed his whole attention on the simple organ, the uterus, to the total neglect of every other important organ in the system; and endeavours to force blood out of its empty vessels. He says, "the patient was of a very delicate habit; menses obstructed five months; health gradually declined, became languid, emaciated; countenance and lips very pale." Can any reasonable man expect blood to flow out of such a bloodless system? If the writer is asked, what occasioned the emaciation, paleness, &c.; he will answer, on his own principles, "The interruption of a very important function in the female economy;"—meaning the retention of a small quantity of blood in the system. If the retention of blood occasioned the emaciation, paleness, &c. why did he not take blood from her to make her complexion redder? *Contraria contrariis medentur.* She died,—and no wonder. "On opening the thorax, there was a very general adhesion of the lungs to the pleura; three or four ounces of fluid in the cavity. The lungs were dense, resembling the liver in appearance; purulent matter in some of the cells, with tubercles. All the small intestines in a state of inflammation, as was the omentum; the mesenteric glands enlarged and hardened." Notwithstanding the extensive derangement of some of the most important vital organs appeared, every one of which is of incomparably more importance than the uterus, yet the writer denies that any one, or all of them, could be the cause of death. "Nor will he be persuaded though one should rise from the dead." There could be no difficulty in accounting for the emaciation and paleness after seeing "the mesenteric glands enlarged and hardened." That the system could part with blood in such an emaciated state, in my opinion, was impossible. It is unnecessary to follow the writer through his long physiological and pathological disquisition, in which he strains every nerve to establish his doctrines; but on the same principles, so often mentioned, the taking the effect for the cause. Were the mesenteric glands obstructed before "the interruption of that important function in the female economy?" I am afraid he cannot answer the question with certainty. It is a probability next to a certainty, that disease in these most indispensably necessary organs, was the original cause of the emaciation, debility, and consequently of amenorrhœa.

If any professional gentleman, even the writer himself, should inspect the body of a man, and see such extensive derangements in some of the most important vital organs, would he withhold his assent that these were sufficient to occasion death?—the writer would not have the important organ and its important functions to rest his arguments upon, as the cause of these derangements.

I will add a few words more, which will probably be the last on this subject, as I do not wish to promote controversy.

Through a practice of considerable duration, I have never regarded amenorrhœa, or chlorosis, as any thing more than symptoms or effects of some previous disease; that they never were, nor ever can be the cause of bad health. These causes may be various; any disease occasioning debility, morbid evacuations, the diminution of the vital fluid, occasioning emptiness in the vessels, as was the case here. When no remarkable evacuations have taken place, the cause will very possibly be discovered in some derangement of the organs, which contribute to the indispensable processes of digestion, chylification, sanguification, and nutrition. When these are in a state of health, there never will be amenorrhœa or chlorosis met with. When these organs are in a state of health, the whole system is supplied with what is necessary. The uterus will partake, and undoubtedly its functions will be carried on. But if the system is not supplied with what is necessary, from the imperfect actions of the digestive organs, is it not superlative folly to expect blood to flow out of vessels which do not contain any? Yet this absurdity has been propagated from age to age, with no less than professional authority; and has engrossed the attention of the medical world, to the total neglect of every other organ, function, or discharge in the system. The writer takes no notice of the state of the uterus. After examining the diseased parts, he says, in general terms, " the pancreas, spleen, and other viscera, were of their natural appearance." Whether he includes the uterus among these viscera, this chapter saith not. After seeing the state of the mesenteric glands, and the cadaverous condition of the lungs, and refusing his assent, but denying that they were accessory to the death of the patient, he will conclude that an animal may live without either chylification or respiration.

Mater sæva cupidinum, mater dira dolorum! who by the strength and rigidity of the vessels, and by the lentor and viscidity of thy fluids*, hast dam'd the most important stream, that ever

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* Medical Writers, passim.

flows from the fair, and made it recoil on the insignificant and unimportant organ, the lungs, much hast thou to answer for! thou hast got a bad character, though very unjustly.

Newcastle, February 22d 1810.

MEDICAL EXTRACTS, No. I.

Peron's Voyage to Australasia.

WE have always considered, that a judicious selection of medical extracts, from books not written on professional subjects, would very much contribute, in many ways, to the advancement of the science. We had this in view at the commencement of our undertaking, but have hitherto been prevented from accomplishing it. In fact, the object is not to be attained by a course of reading on purpose, but by occasionally extracting or abridging such passages in miscellaneous works as relate to professional subjects. We now propose to attempt something of this kind, and, by the occasional assistance of our friends and readers, we even hope to render it interesting and useful.

We shall begin by a few extracts from Mr Peron's *Voyage des Decouvertes aux terres Australes*, the first volume of which, printed at Paris in 1807, we have lately perused.

Endemic diseases of the Canary Islands.

He found the inhabitants of the Canary islands extremely unhealthy, their physiognomy cachectic, their skin greasy, and their colour livid. " The most common diseases, and what may be almost considered as endemic, are obstinate gastric affections, often complicated with debility (adynamie), putrid and chronic diarrhœa, adynamic fevers, scorbutic cachexy, cutaneous eruptions of various sorts, the itch, with which most of them are miserably affected, and an affection much more dangerous, said to be analagous to elephantiasis. All these diseases, which attack chiefly the lower class, seem to have their source in the bad nourishment which is used in that country. It in fact consists of *gofio*, a species of paste, which supplies almost entirely the place of bread, and said to be derived from the ancient *gouanches*, consisting of barley or wheat roasted, ground and mixed with water, milk, and honey. The rest of their diet consists amost entirely of putrid salt fish, which they consume in great quantities. Their water is also bad; for the scarcity of springs, which generally dry up during the warm season, obliges them to collect rain-water in vast cisterns, where, after remaining several months, it cannot fail to become so spoiled as to be injurious. The venereal disease is also extremely common, and is rendered the more dangerous, as it is often complicated with inveterate corroding itch (*gales rongeantes inveterées.*)"

Meteorological Observations during the Voyage to the Isle of France.

The temperature increases as you approach the equator.

In the same latitude it is lower in the southern than in the northern hemisphere.

It is lower in the open sea than on the continent, or even in islands. Under the line it was never higher than 25°, (centigrade ?) and the mean was considerably lower.

The variations of temperature are less considerable and less frequent as you approach the equator.

Between the tropics, and in the open sea, there is little difference between the temperature of midnight and mid-day in the shade; on land the difference is greatest between the tropics.

The hygrometer indicates a greater proportion of moisture, and its variations are less as you approach the equator.

In the middle of the equatorial regions, it is almost always at the point of saturation.

The barometer falls as you approach the equator, and its variations are less.

The falling of the barometer and increase of humidity have a direct relation to each other.

The winds become weaker and more constant.

Winds lower the barometer in proportion to their velocity and their coldness.

As you approach the equator, the force of gravity and the intensity of magnetism diminish; the barometer falls; the thermometer rises; the hygrometer proceeds to saturation; the winds become weaker, more constant; and the range of all the instruments becomes more regular, and their variations less considerable.

In the Isle of France, the endemic diseases are, very frequent affections of the breast; leprosy, which affects a considerable number even of the white population; and all the affections of the urinary organs in a number truly extraordinary, which Mr Peron thinks is owing especially to the quality of the water, which, according to the analysis of Mr Deslisse, contain a very large proportion of carbonate of lime. But they are free from those fevers which depopulate Batavia, the Philippines, Moluccas, Madagascar, and almost all the equatorial countries.

Capt. Hamelin, when on the island of Endracht, with a single alembic, was able, by distilling sea water, to procure 80 pints of fresh water daily, and thus to provide for the consumption of a great part of his crew which was upon the continent.

The inhabitants of Timor are in possession of a means of plating their teeth with silver, which would be of great use to our dentists in protecting carious teeth from the action of the air, and as a substitute for stuffing. M. Peron observed two whose front teeth were covered with plates of silver of tolerable thickness, adhering so closely to the enamel, that he could not, with his nails, detach any of it in the smallest degree. They told him that the silver had been cemented on four or five months before, and would only wear off by length of time.

Dr Bellefin of the *Naturaliste* found great advantages from the use of a bath of hot sand in sea-scurvy. (See M. Fleurieu's account of the voyage of M. Roblet.)

In the bay of Coupang, in the island of Timor, the crews suffered much from dysentery.

Capt. Hamelin, on the island Rotnut, where there is no fresh water, again got, with a single ill-constucted still, 80 pints a-day, which was more than sufficient for the 30 persons encamped on shore. Distilled sea water is not disagreeable. It has only a little taste of smoke, which it soon loses by being aired. At any rate, it was much preferable to the water, so often putrid, which is used on board of ship.

M. Peron mentions a curious fact with regard to impregnation. Many of those public girls who, while upon the town in England, were barren, become exceedingly fruitful after living a year or two in Botany Bay. This is not owing to the climate, but to their mode of life, for those who are permitted to live in a state of postitution in New Holland continue to be barren.

M. Peron took the opportunity of his communication with so many different peoples, to compare their physical powers; and the results he obtained go far to prove, that civilization tends to their developement and increase, or, at least, disprove the ideas once so much in vogue among a certain class of philosophers, that man, in the state of nature, enjoyed the greatest bodily vigour. The experiments were made by means of the *dynamometer* of Regnier;

nier; and although the instrument cannot be considered as perfect, or as forming an exact measure of absolute force, it at least gives direct approximation; and he says, that, after three years experiments, he found its accuracy exceed his expectations.

The inhabitants of Van Diemen's Land, and the neighbouring isle Maria, are a totally different race from those of New Holland. In size they resemble pretty much Europeans, but they differ from them by their singular conformation. With a large head, especially remarkable by the great length of the diameter from the chin to the sinciput, with broad well-formed shoulders, well-marked loins, and hips generally large, they have almost universally weak extremities, of great length and little muscularity, and a large, prominent, and, as it were, distended belly. Without chiefs, laws, or any form of regular government; without arts of any kind; without any idea of agriculture, the use of metals, or domestication of animals; without clothing, or any fixed abode, or any habitation, except a miserable shed of bark to protect them from the coldness of the south winds, without other arms than the club and sagay, always wandering in the middle of forests or by the sea-shore, the inhabitant of these regions undoubtedly unites all the characters of the savage. He is truly the child of nature.

With such men there could not be much communication. It was always difficult and dangerous, and generally ended by a hostile aggression on the part of the savages. Of course there was little opportunity for dynamometrical experiments, and not a single individual could be prevailed upon to try the strength of the loins. Yet as the results of experiments upon twelve of them were very decided, and uniform,—we may, without risk, apply them to this primitive race in general. Now, these results indicate a remarkable deficiency of strength, although the trials were only made with the most vigorous class of the population, from 18 to 40 years of age. In every attempt to wrestle with the French sailors they were overcome.

The inhabitants of New Holland are a distinct race from those of Diemen. Their stature is nearly the same, but, besides other characteristics, they differ from them in having long and smooth hair, in the colour of their skin, being much fairer, and the remarkable configuration of the head, which, less bulky, is compressed in the back part, while that of the people of Diemen's Land is elongated in the same direction. The breast of the New Hollander is also developed; but there is the same disproportion between the limbs and the trunk, the same weakness, same slenderness of the limbs, and often the same tumefaction of the belly. In point of civilization, they are but one step farther advanced than the people of Diemen's Land, and have domesticated the dog alone.

The inhabitants of Timor consist of Malays or Chinese, who have been settled there for several ages. M. Peron considers them as forming the fifth stage of society. They live in towns and villages, submit to the authority of kings, exercise different arts, cultivate the ground, tend flocks, and prosecute fishery, commerce, and navigation, as much as their natural indolence will permit, or their wants demand. As M. Peron made experiments upon 56 of them, of different ages, from eight to 60, he has drawn some conclusions from them with regard to the comparative strength of different ages.

Among these uncivilized people, dynamometrical experiments present a character of uniformity which cannot be expected in European societies. Our numerous population, the diversity of our professions, exercises, aliments, and occupations, exclude all exact comparison; and to discover the mean force of a powerful and civilized people, would require so many observations, and in so many classes of society, that it may be regarded as unattainable. With savage hordes, such as those which people Diemen's Land and New Holland, it is entirely different. The population is so scanty; all difference of condition of life, of exercise, and food, is unknown. With the same wants and the same resources, every individual has the same labours to undergo, the same privations, and the same enjoyments. This uniformity, which occurs in all the details of their existence, and at all periods of their life, impresses upon individuals a character of physical and moral resemblance, of which we can scarcely form an idea in our state of society. Hence M. Peron does not hesitate to consider the few experiments made upon the inhabitants of Diemen's Land, New Holland, and even Timor, as much more conclusive than much more numerous experiments made upon civilized people. Thus, he does not consider his experiments upon the French and English as furnishing any conclusion with regard to the relative strength of these two people, but merely as sufficient to afford data for a comparison between the strength of civilized and uncivilized man. And unquestionably they are fully sufficient to demonstrate, that the latter is almost as inferior to the former in physical as in moral power, in direct opposition to the ideas of some visionary philosophers. In fact, we find that, in manual force, the weakest Frenchman is equal to the strongest native of Van Diemen's Land, and the weakest Englishman superior to the strongest New Hollander; and the average force of the Europeans very little short even of the most vigorous inhabitant of Timor. With regard to the force of the loins, the difference is still greater, as the average force of the European is considerably greater than the greatest of the inhabitants of Diemen's land, New Holland, and even of Timor.

	No. Expts.	Age.	Force of the hands in kilogrammes.			Force of the loins in myriagrammes.		
			Greatest.	Least	Mean.	Greatest.	Least-	Mean.
Diemen's Land,	12	18 to 40	60	40	50.6			
New Holland,	13	18 to 40	62	32	51.8	19	13	14.8
Timor,	28	18 to 40	72	40	58.7	22	11	16.2
French,	17	25 to 50	82	60	69.2	29.5	17	22.1
English.	14	25 to 60	83	63	71.4	31	18.5	23.8
Timor,	21	10 to 20	52	20	34.2	17	7	11.5
	16	20 to 30	72	40	58.2	20	12	17.1
	8	30 to 40	68	50	60.6	19	15.5	17.4
	7	40 to 50	66	47	54.7	22	11	15.2
	3	50 to 60	62	52	56.3	19	11	15.7

THE INQUIRER. No. XVIII.

On the Use of Mercury.

"—— Maximè Mercurium colunt."

JULII CÆSARIS Comment. De Bello Gallico,
Lib. VI. xvi. Sect.

"MERCURY (says Dr G. Fordyce) cures the venereal disease, which no other medicine will cure; or at least, not with any degree of certainty. Physicians have seemed to have concluded, that whatever medicine will cure one disease, which no other medicine can cure, will cure all diseases which no other medicine will cure. This supposition has occasioned mercury's being employed in a variety of diseases, where it evidently does a great deal of mischief." (*Fourth Dissertation on Fever, page* 78.)

Here is a frank and explicit avowal, by an eminent practical writer, that mercury is not so universally useful a remedy, as many other authors lead us to suppose. Dr Saunders, in an appendix to his Treatise on the Diseases of the Liver, lately published, has also stated the mischievous effects which a long and extensive experience has taught him to apprehend from the use of mercury, in many of the visceral diseases in this country; especially when attended with general fever, and decided marks of constitutional irritation. The prejudices, therefore, which are said to be commonly entertained against mercury, as beneficially applicable to most hepatic complaints, and to various other forms of disease, do not bear the marks of rash and unreasonable decision, but appear to be the inferences derived from observation and experience. Such general rules, of great practical utility, do not deserve to be called *prejudices;* because they are not what the word prejudice implies, the consequences of judgments prior to examination. The attack of Dr Curry is directed against the charges of the bad effects which are alleged to arise from the use of mercury in general; and his arguments are, on the whole, solid and important. It is impossible to do justice to his opinions in favour of calomel and other preparations of mercury, as he has only published some remarks, introductory to his work on the nature of the hepatic functions; and, until all his reasonings and facts are known, it would be unjust to offer any criticism upon them *.

This question, like most others in the world, admits of two plausible statements. When both sides have been heard, the ordinary result, to careful and strict observers, is, much contention of evidence, much obscurity, and much scepticism. These doubts and differences are not to be imputed to mere prejudice and perverseness; they are owing to the want of facts. Decisive evidence could not fail to produce a decisive effect; but in medicine there is only probable evidence to be had, which admits of many intermediate degrees, opposite presumptions, and opposite proofs,—opposite theories and opposite analogies. The same events strike different minds in a very different manner; and it is often necessary to put ourselves in the place of another, in order to form an adequate idea of his impressions and sentiments. I will endeavour to illustrate this proposition by an example which came lately under my own observation.

A boy, 14 years of age, had his hand torn by a wheel. No material inconvenience was felt for ten days after the accident;

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* Examination of the Prejudices commonly entertained against Mercury, as beneficially applicable to most Hepatic complaints, and to various other forms of Disease, as well as to Syphilis. By James Curry, M.D. F.A.S. &c. London, 1800.

he then began to complain of stiffness about his neck and chin; his jaw became locked; and this symptom was followed by pain at the sternum, spasmodic contraction of the abdominal muscles, and rigid contraction of all the muscles of his extremities and back; a quick and small pulse, and great anxiety in his countenance. The wound in his hand was not inflamed or painful, but went on healing, as if the system had not been at all deranged. Affusion of cold water was applied, without any relief to the symptoms; calomel and opium were administered internally, in large doses, for several days; but the disease kept increasing, though not in a violent degree. The warm bath was then ordered, and half an ounce of strong mercurial ointment was rubbed over the abdomen, and on the inside of the thighs and arms, after coming from the bath, every night and morning. These remedies were carefully administered for four days, with manifest advantage. No salivation was produced by the mercury; and no apparent effect, except violent diarrhœa, which began on the second day after employing mercurial frictions; and this was allowed to continue unchecked for several days, as the most urgent symptoms gradually abated, whilst the bowels were so much relaxed. When the symptoms of tetanus had subsided, some restringent medicine was given; and at the end of three weeks from the commencement of the trismus, the boy was perfectly well.

The recovery of a patient from tetanus induced by a lacerated wound, is not an every-day occurrence; it excites the inquiry, what cured him? The *mercury*, says one physician,—the *purging*, says another,—the *warm bath*, says a third;—and a fourth will perhaps honestly confess that he is ignorant of the cause, he only knows the fact, that the patient recovered by employing active remedies, when, in all probability, he would have died if he had been left unassisted.

The action of mercury on the system is that of exciting an artificial fever. Now, on analysing the influence of febrile actions in the human frame, it is not difficult to understand how disorders, arising from torpor and languid circulation, may be removed by a remedy of this kind; but its efficacy in remittent and continued fevers is very equivocal. At the commencement of those diseases I believe that it does mischief, if exhibited in any form to exert its power on the salivary glands alone; and I am disposed to think the success which has attended the use of calomel in the endemic fevers of America and India, has been owing more to its effect as a purgative, than to any particular effect upon the liver. Notwithstanding the reasoning and assertion of practitioners in those countries, and among our military practitioners

tioners at home, facts prove, that the value of calomel, as a remedy in fevers, rests on its purgative quality; for it is generally combined with jalap, or some other medicine of the same class, and the soreness of the gums and mouth seems a connection more in point of time, when some favourable change takes place, than of any demonstrative cure produced by the remedy. Is the mortality from the yellow fever in the West Indies diminished since the use of mercury has been more extensive? Has the treatment of the remittent fever of Walcheren been more successful where calomel was largely administered? Was calomel the remedy prescribed with most confidence in the fevers of our troops returned from Spain? That patients have recovered from these fevers who were salivated, I know; but I have still to learn what peculiar efficacy mercury has had above all the other medicines employed.

Another circumstance of considerable moment in the discussion of this subject, is the opposition and uncertainty of the reports concerning the effects of mercury in India. The inhabitants of that country, we are told, are so familiarized to its use, and so convinced of its superior efficacy in most of the disorders which prevail there, that they have less dread of mercury than was once entertained, even by the faculty in England, with regard to the Peruvian bark *. The Peruvian bark was once held in great abhorrence in this country, partly from prejudice and partly from observing the ill effects of an indiscriminate use of it; and the same thing occurs with regard to mercury and other remedies in India and other places. The use of mercury has not been extolled more highly in India than the abuse of it lamented, on account of the dreadful sufferings which it produces when given in too large quantities, or in cold and wet situations †.

Changes produced by mercury in syphilis are obvious to our perceptions, and more directly calculable than the changes produced in most other diseases by different remedies; but it is the simple production of a change, not the nature of the change produced, which is essential to the argument respecting the beneficial administration of mercury in liver complaints, in fevers, and in various other forms of disease. The practice of giving mercury in cases of obscure and masked disease is synthetical, yet it is founded on previous analysis, and disordered function of the liver is assumed as the basis of the reasoning; but even when the analysis is most skilfully conducted, some link in the chain may

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* Dr Curry's Examination, &c. p. 17.

† Vide Dr Duncan's letter at the end of Dr Saunders's Treatise; and also "Extract of a Letter from a Surgeon on the Madras establishment," Vol. ii. p. 503 of this Journal.

may be omitted or misplaced, which renders the whole train of evidence inconclusive. It still remains to be proved, that liver complaints are as common in England as in India; and if abstinence and purgative medicines will cure obstructions in the viscera, or remove the consequences of an overloaded stomach, then mercury may retain its place as a specific for one disease, and an active auxiliary for some others, without risking the loss of its reputation, by having its virtues overrated, as being fitted for the removal of that long catalogue of symptoms which it is now the fashion to attribute to some disease in the chylopoetic viscera.

Upon so intricate a subject, where the want of facts is a great misfortune, it behoves every reader to accept with thankfulness and candour every fact and every argument that may be offered; and in the confident expectation of finding justice done to the whole question by the author, who has promised an elaborate investigation of it, I shall leave this inquiry into a part of it, by persuading my brethren to discard mutual bigotry, and to give credit to each other for their common differences of opinion.

The Inquirer's Reply to Dr Chisholm.

The author of the inquiry concerning the cause of the sweating-sickness, thanks Dr Chisholm for pointing out an apparent contradiction between the assertion and the proof of an article of information taken from the works of Ramazzini. The assertion is, that persons were affected by eating the flesh of diseased cattle, and Ramazzini is referred to for this information.

It is very true, as Dr Chisholm states, that Ramazzini himself does not appear to give credit to this opinion; he hopes it is unfounded; yet he has some doubts upon the subject, "habemus igitur unde spes nostras habemus. Utrum autem grassante hoc epidemiâ, carnis bubulæ sanæ creditæ, adeò tutus sit usus, ut noxam ullam humanis corporibus non possit inferre, abs re non erit disquirere. Res equidem suspicione non vacat." *De Contagiosâ Epidemia, p.* 794. *Ramazzini Opera, edit. Genevæ,* 1717. But the reference was made to the works of Ramazzini for the fact, because several authorities are quoted by him upon this subject, and a farther reference should have been made by a cross instead of an asterisk to the first volume of "*Recherches Historiques et Physiques sur les Maladies Epizootiques. Par M. Paulet, M. D. A. Paris,* 1775.

The passage is stated in too unqualified terms, through inattention to the original work of Ramazzini, which has since been more carefully read over. At some future time, perhaps, the Inquirer may again attempt some farther investigation of this curious point: at present he is fully satisfied with acknowledging the inaccuracy of this quotation, and is glad to leave the subject in such good hands as Dr Chisholm's.

PART

PART II.

CRITICAL ANALYSIS.

I.

Philosophical Transactions of the Royal Society of London for the Year 1809. *Parts I. and II.*

THIS volume is full of interesting and important matter; but we must confine our attention, at present, to those papers which belong to physiology, and to subjects connected with medicine, reserving the review of Professor Davy's discoveries for another opportunity. The first paper is,

The Croonian Lecture. On the Functions of the Heart and Arteries. By Thomas Young, M. D. For. Sec. R. S.

The experiments of Dr Hales, and some mathematical calculations of the learned secretary, are here brought forward to elucidate some of the functions of the circulation. Dr Young thinks the only considerable resistance which the blood experiences, occurs in the extreme capillary arteries; and he infers, from a variety of reflections, that the muscular power of the arteries has very little effect in the progressive motion of the blood. The question about the powers which give motion to the blood, admits of very opposite and plausible statements. The little that is known on this subject, however, has not been derived from the mathematical school, but from the experiments of Hales, Haller, Senac, Hunter, and Jones; who, not content with calculating upon what was already known, determined to discover something new.

V. *A Letter on a Canal in the Medulla Spinalis of some Quadrupeds. By Mr William Sewell.*

" Upon tracing the sixth venticle of the brain, which corresponds to the fourth in the human subject, to its apparent termination,

mination, the calamus scriptorius, I perceived (says Mr S.) the appearance of a canal, continuing, by a direct course, into the centre of the spinal marrow. To ascertain, with accuracy, whether such structure existed throughout its whole length, I made sections of the spinal marrow, at different distances from the brain, and found that each divided portion exhibited an orifice, with a diameter sufficient to admit a large sized pin, from which a small quantity of transparent colourless fluid issued, like that contained in the ventricles of the brain. The canal is lined by a membrane, resembling the tunica arachnoidea, and is situated above the fissure of the medulla, being separated by a medullary layer; it is most easily distinguished where the large nerves are given off in the bend of the neck and sacrum, imperceptibly terminating in the cauda equina."

This is a modest and well written paper; it communicates an important discovery in a simple and unostentatious language.

VII. *Account of the Dissection of a Human Fœtus, in which the circulation was carried on without a Heart. By Mr B. C. Brodie.*

This case of monstrosity is clearly and comprehensively detailed, and several peculiarities are neatly adverted to. The fact itself is sufficient to refute some of the speculations in the preceding Croonian Lecture, because the circulation must have been carried on by the muscularity of the arteries, as there was no heart. Similar cases are related by Lewenhoeck, Hewson, Monro, and others; but none have been so satisfactorily examined as this by Mr Brodie.

IX. *On the Nature of the intervertebral Substance in Fish and Quadrupeds. By Everard Home, Esq.*

Another instance of beautiful structure and contrivance in some fish and quadrupeds, which will delight all lovers of philosophical news.

XII. *An Anatomical Account of the Squalus Maximus of Linnæus, which, in the Structure of the Stomach, forms an intermediate link in the gradation of Animals, between the Whale tribe and cartilaginous Fishes. By Everard Home, Esq. and F. R. S.*

The fish from which this very accurate account is taken, was caught in the Channel on the night of the 13th of November 1808.

1808. Nearly about the same period, two other fish, of large dimensions, were thrown upon our coast. One at Penrhyn in Cornwall, and the other at Rothesholm in Stronsay, one of the Orkney isles. Mr Home endeavours to prove, that these were the same fish as that which he has described; but we shall have another opportunity of entering more fully into this disputed point of the natural history of our island.

XVIII. *An Account of a Calculus from the Human Bladder, of uncommon magnitude. By Sir James Earle, F. R. S.*

Sir Walter Ogilvie, Bart. of Dundee, the subject of this extraordinary case, received a blow on his back, at the age of twenty-three, which brought on a paralysis of the pelvis and lower extremities. During three months, he was obliged to have his water drawn off: for fourteen months he remained in bed, or in a horizontal posture; and, though he recovered the voluntary power of the bladder, and of his limbs, sufficiently to walk with the help of crutches, his general health continued many years in a weak and precarious state. About twenty years after the accident, he perceived symptoms of stone in the bladder; on being examined a stone was felt; the operation of extraction was recommended, but was postponed. At the age of fifty-three, thirty years after the accident, the spasms and fits of pain became so frequent and violent, that he was determined to have the stone extracted. The paralytic state of the lower limbs was considered no objection to the operation.

Sir James Earle and Mr Cline were consulted as to the practicability of extracting this large stone. After mature consideration of every circumstance, these gentlemen were of opinion, that the possibility of extraction must depend on the consistence of the stone: if it proved soft, it might be taken away, but if too hard to be broken it would be too large to be extracted whole, and must be left. The usual lateral operation was judged to be the only safe and probably means to be attempted. It was performed by Mr Cline. The staff could be passed in no farther than the neck of the bladder. The division of the urethra and prostate gland was made with the scalpel and probe-pointed bistoury. When this was accomplished, it was found impracticable to introduce any kind of forceps; but, on pressing hard with the finger, part of the stone felt soft, gave way, and made some room for the forceps, which brought away several portions, and with the assistance of a scoop, as much stone was extracted, as would have filled a large tea-cup; but the great mass beyond what the finger could reach on either side, still remained hard and impenetrable; and after repeated trials with forceps of different kinds, and of the strongest powers, it was found impossible to reduce the size of it, or take it away. Of course it was left, and the patient died ten days after the operation. On opening the abdomen, the bladder was found much diseased and thickened, firmly embracing a stone of extraordinary magnitude, and appearing to be completely filled with it. When taken out, the form of the stone appeared to have been moulded by the bladder; the lower part having been confined by the bony pelvis, took the impression of that cavity, and was smaller than the upper part, which having been unrestricted in its growth, except by the soft parts, was larger, and projected so as to lie on the os pubis. The weight of the stone was forty-four ounces, or three pounds four ounces, (apothecary's weight;) the form of it elliptical, the periphery on the longer axis, sixteen inches, on the shorter, fourteen. Its chemical composition was proved to be ammoniaco-magnesian phosphati, the fusible calculus of Dr Wollaston.

We have given the above abstract of this case, because its interest depends upon considerations of fact and practice. As a question of fact, it is short and easy to decide upon; but it is of great importance, as it affects the practical rule, which ought to be followed in similar cases. The internal structure of the stone, which was fortunately exposed by the finger, during the operation, (though it ought to have been shown more completely, by sawing the stone through its whole length) appeared to consist of distinct calculi or nuclei, consolidated into one mass, and covered with innumerable layers of earthy matter. In this respect, it is an instance of the correctness of the opinion entertained by Albinus, and other authors, who thought that a number of small stones might be cemented together, so as to form a large calculus; yet that opinion is contradicted by the most common structure of calculi, which are formed upon one nucleus only. This stone is not the largest ever seen in Europe, though it exceeds the dimensions of all those huge concretions described in this country. Dr Heberden has described one weighing more than thirty-three ounces, (Phil. Trans. 1750) and Lister, in his journey to Paris, mentions one, which, he says, was taken from a monk, and weighs fifty-one ounces.

Now, as to the practical precept to be deduced from this history. Far be it from us to indulge that unreasonable and illiberal habit of blaming a piece of practice, because it has not succeeded; but we must view this operation as an experiment, and one which we *should not* willingly have tried upon ourselves, *and consequently not have* advised another to submit to. Because

cause there could be no doubt of the stone being very large, of uncommon magnitude; because the texture of large stones is known, from their chemical composition, to be very hard, and, therefore, not easily broken; because uniform experience shows the difficulty and danger of extracting large stones, even from healthy subjects; and lastly, because Camper has shewn, that calculi, whose circumference is eight inches, require a wound in the bladder of four inches, and cannot be extracted at any one time, to preserve the patient's life; he has likewise shewn, that the forceps of Le Dran for breaking stones, cannot be introduced into the bladder, without tearing the prostate gland.

XIX.—*On Expectorated Matter. By George Pearson, M. D. F. R. S.*

From many experiments and observations made on this intricate part of animal chemistry, Dr Pearson concludes, that the various kinds of expectorated matter do not differ in the ingredients of their composition, but merely in the proportion of them one to another. His experiments seem to shew, that the circulating and secreted fluids contain neutralized potash, and not soda, as commonly imagined. He does not state those properties by which expectorated secretion may be distinguished from expectorated pus, although he thinks he has discovered many. For the minute details, our readers must consult the original paper.

XXI. *Observations on Albumen, and some other animal fluids, with remarks on their analysis, by electro-chemical decomposition. By Mr William Brande, F. R. S. Communicated by the Society for the Improvement of Animal Chemistry.*

These experiments prove, that the coagulation of albumen is owing to the separation of alkaline matter, which keeps it in a fluid state; and electrical decomposition will separate it from such states of combination as are not to be detected by the usual tests. Some new ideas are suggested concerning the composition of mucus; and the whole paper deserves an attentive perusal.

XXII. *Hints on the Subject of Animal Secretions. By Everard Home, Esq. and F. R. S.*

A society has been instituted in London for the improvement of animal chemistry, and every one must anticipate important discoveries from the combined exertions of so many able anatomists, physiologists, and chemists, whose knowledge of these branches of science renders them peculiarly fitted for the laudable purpose of such an undertaking. This is one of their papers, published in the Philosophical Transactions; and it seems to call for particular notice, as it is supposed to throw light upon the principle of secretion, and to serve as hints for future inquiry, beneficial to medical science.

After detailing five experiments, made by Mr Brande in five succeeding months A. D. 1809, Mr Home concludes with the following observations:

> " By these experiments it is ascertained, that a low negative power of electricity separates from the serum of the blood an alkaline solution of albumen; that a low positive power separates albumen with acid and the salts of the blood. That with one degree of power, albumen is separated in a solid form; with a less degree, it is separated in a fluid form. From these facts the following queries are proposed:
>
> " 1*st*, That such decomposition of the blood by electricity may be as near an approach to secretion, as could be expected to be produced by the artificial means at present in our power.
>
> " 2*d*, That a weaker power of electricity than any which can readily be kept up by art, may be capable of separating from the blood, the different parts of which it is composed, and forming new combinations of the parts so separated.
>
> " 3*d*, That the structure of the nerves may fit them to have a low electrical power, which can be employed for that purpose; and as such low powers are not influenced by imperfect conductors as animal fluids, the nerves will not be robbed of their electricity by the surrounding parts.
>
> " 4*th*, That the discovery of an electrical power, which can separate albumen from the blood in a fluid state, may explain the mode in which different animal solids and fluids may be produced, since, according to Mr Hatchett's experiments, albumen is the principal material of which animal bodies are composed.
>
> " 5*th*, That the nerves of the torpedo may not only keep the electric organ under the command of the will, but charge the battery, by secreting the fluid between the plates that is necessary for its activity.
>
> " 6*th*, As albumen becomes visibly coagulated by the effect produced from twelve four-inch double plates of copper and iron, a power much too low to affect even the most delicate electrometer, may not this be occasionally employed with advantage as a chemical test of electricity, whilst the production of acid and alkali, effected by still inferior degrees of electricity to those required for the coagulation of albumen, may likewise be regarded as auxiliary tests on such occasions?"—p. 390.

These queries seem to confound two subjects, in their nature essentially different; the production of nervous energy or nervous power, and the separation of the different substances from the mass of blood. Both these subjects are enveloped in great obscurity, and many hypotheses have been invented to explain them, but in aiming at generalization we should not overlook the great distinctions between them. There can be no doubt that the laws of chemical affinity act in living as in other bodies; and as different salts dissolved in the same vessel, crystallize apart, so in the animal body all the component parts of the secretions are mingled in the blood, and go to be deposited each in their respective and proper parts: the osseous matter to the bones, the synovia to the joints, the bile to the liver, the urine to the kidnies. The vital functions are carried on by secretions, that is to say, by chemical combinations and transmutations; which are regulated directly by the muscular power of the vessels, but indirectly influenced by the nerves through the medium of the muscular power. The vessels are the apparatus in which these chemical changes take place, but there is no proof of the nerves being the principal agents in the process of secretion. That the nerves assist the secreting organs in performing their functions has long been known; and nobody can have seen a patient in hysteria without observing how much the action of the kidnies is increased in that disease. It has not escaped the watchful eye of medical theorists, that animals possess the power of generating something analogous to electricity and galvanism. This opinion has been gaining ground ever since the experiments of Mr Walsh on the torpedo, which were communicated to the Royal Society some years ago; and the brilliant discoveries made by Mr Davy, naturally excite physiologists to attend to this extraordinary faculty. But there is nothing analogous to secretion in muscular contraction, nor in the shock which the gymnotus electricus can give to any animal approaching it. The argument that a low degree of electrical power may influence the secretions, is nugatory, because some secretions have been imitated out of the body without employing any such power. All animal substances are convertible into fat; having every property of the natural animal oils. Both the fibrin and the albumen of the blood are convertible into gelatine, and the experiments of Mr Hatchett show in what manner crassamentum or fibrin can separately be converted into a matter similar to the adipo-resin of the bile.

Mr Home seems to consider the nerves as the chief instrument of secretion; and an experiment of Dr Berzelius, Professor of *Chemistry at Stockholm*, is quoted to show that the agency of the nerves in secretion has been disregarded. There is no foundation for either of these observations. The nerves have quite enough attributed to them without any additional work. It is their office to give sensations; it is the office of the muscles to give the power of accommodating the objects of the material world to our convenience: it is the office of the blood-vessels and glands to separate various substances from the circulating fluids. How can we account for secretions going on, and parts living, after the nerves and muscles leading to those parts have been destroyed, if the structure of the nerves fits them for the exercise of this supposed electrical power? As to the nerves of the torpedo keeping the command of the electric organ, they act like our own nerves; for besides the sensations derived from external impressions, there is one, little attended to, though very important, and that is, the sensation of muscular motion, which serves to regulate the force and quantity of contraction to be expended on any particular occasion. It is gratifying to see the old notion of a vital principle influencing secretion entirely abandoned by these enlightened inquirers into animal chemistry; but there seems some danger in overrating the influence of electricity, for however much we must admire the splendid exercise of its power in analysing different bodies, we ought to be cautious to avoid the visionary theories of the French and German school.

XXV. *On Respiration. By William Allen, Esq. and William Hasledine Pepys, Esq. F. R. S.*

In this elaborate paper, we find a series of accurate and well-contrived experiments, conducted without reference to any particular theory, which furnish a variety of important facts for the consideration of physiologists. The experimentalists conclude with a philosophical wish, in which they will be supported by all the lovers of nature and truth. "Confident, however, that all those who repeat the experiments with the same care, will arrive at the same results, we shall rest satisfied with stating the facts, not without a hope, that those brilliant discoveries of Professor Davy, which have already given us new views of the operations of nature, will, in their progress, furnish us with that explanation, which it is in vain to expect at present."

II.

Description des Maladies de la Peau, observées à l'hopital de St Louis, et exposition des meilleures methodes suivies pour leur traitement. Par J. L. ALIBERT, Medecin, &c. &c. 5ieme et 6ieme Livraison.

[*Continued from Vol V. page 205 of this Journal.*]

LES DARTRES, OU HERPES.

ALL the varieties of this genus have been arranged by M. Alibert under seven species, viz. Herpes Furfuraceus, Squamosus, Crustaceus, Exedens, Pustulosus, Phlyctenoides, and Erythemoides. Of five of these species, and their varieties, we have already, in a preceding review, given a sufficiently copious analysis.

Species 6. *Herpes Phlyctenoides.*—Phlyctenæ of various forms and size, appearing on different parts of the surface. They are vesicles produced by elevations of the epidermis, are filled with an ichorous serosity, and, after desiccation, form reddish-coloured scales, similar to those which succeed to erysipelas.

Varieties.—A. Herpes Phlyctenoides *confluens.*—Numerous vesicles occupying indiscriminately the whole surface of the body, crowded together, and running into each other. This variety has sometimes terminated fatally, and the inspection of the bodies has shewn the existence of these vesicles, in the internal membrane of the mouth, stomach, and intestines.

B. Herpes Phlyctenoides *zonæformis.*—Well-known and often described by authors, by the names of zona, zoster, feu sacré, St Anthony's fire, and shingles.

The species phlyctenoides is almost always attended with more or less pyrexia, and with acute burning or itching. The eruption consists at first of red and painful pimples, which soon assume the vesicular character, and become filled with a limpid, generally straw-coloured serosity. These phlyctenæ vary in shape and size, being round, spherical, flattened, amygdaloid, or irregular; they are sometimes larger, and then resemble soap-bubbles, or the vesications produced by scalding water. The fluid contained in them becomes gradually more opaque and consistent; they burst, discharge their contents, subside, shrivel, and leave their bases covered with scales or crusts of a dark red colour. The duration of the disease varies from a few days to several months: for not uncommonly new crops successively appear on different parts. The disease thus sometimes assume as more formidable aspect. The pain, irritation, heat, and itching are extremely vexatious; the functions are disturbed; internal pains, anxieties, spasms, and faintings succeed; and, in the language of the author, if the herpetic leaven affect the head, there occur cephalalgia, delirium, tinnitus aurium; if it fall upon the breast, there arise palpitation and disordered respiration; if upon the abdomen, pains, colliquative diarrhœa, and high-coloured urine. In other cases, deep and sloughy ulcerations take place of the vesicular eruptions; or the phlyctenæ, in others, spread into the mouth, fauces, and stomach, and occasion cough, purulent expectoration, and impeded deglutition.

Species 7. *Herpes Erythemoides.*—Red and florid elevations of the integument, in consequence of turgescence of the cutaneous texture, terminating by slight exfoliations of the cuticle, as in erythema. This species is but imperfectly described by our author; but, as he observes, that its aspect suggests the idea of the patient having been bitten by bees, mosquitoes, or other venomous insects, we suspect its analogy to urticaria.

Agreeably to his method, M. Alibert having described, with great minuteness, the different species and varieties of herpes, proceeds to the generic history of disease. With great affectation of method and precision, he is at once desultory, diffuse, and verbose in these general observations; and, while constantly reminding us that nothing is said, but what has been actually observed at l'hopital St Louis, his fancy and prejudices, like a treacherous *ignis fatuus*, as constantly appear to mislead him. We shall easily comprise, in a very few sentences, the more important observations which serve to complete the history of herpes.

With the exception of the two last species, herpes is rarely attended with pyrexia. The characters of the eruption are, assemblages of inflamed pimples, attended with tingling, burning, or itching, and a discharge of ichorous or purulent matter; grouped in certain forms, more or less regular; circles, oval and semilunar figures; triangles, hooks, curves, and other more curious figures: these eruptions are much disposed to spread from one part of the surface to another, creeping as it were over the periphery of the body. Though no part of the cutaneous system be exempt from the disease, it is yet observed, that the different species select more especially particular parts; thus, the herpes furfuraceus generally attacks the integuments of the joints, and the external surface of the arms and thighs; the squamosus the inside of the extremities, the bend of the elbows, the hams, and the ears; the crustaceus the cheeks; the exedens the lips and alæ nasi; the pustulosus the chin, forehead, and shoulder-blades; the phlyctenoides encircles the hypochondria, and the erythemoides attacks the hands, face, and sternal region. Besides the skin, the hair and nails sometimes have suffered from herpes, the hair has changed its colour, and the patients have become bald; the disease has spread under the nails, which then exfoliate. Herpes has also been known to extend to the mucous membrane of the nose, throat, and larynx. Inveterate cases are not unfrequently complicated with swelling and inflammation of the glandular lymphatic system, and of the liver, spleen, and mesentery; and accompanied with marasmus and hectic, with cough, purulent expectoration, and dropsy; in short, says our author, with a true herpetic consumption. Herpes is also varied by complication with a syphilitic, scrofulous, or scorbutic taint.

We so often find the French physicians attributing a great variety of diseases to an herpetic virus, or to an ill-cured dartres, or to an accidental or imprudent repulsion of this cutaneous disease, that we hoped for something more satisfactory on the subject of this supposed metastasis from M. Alibert, than we have yet been able to collect from other writers; but in this hope we have been disappointed, although M. Alibert seems as firmly persuaded of the truth of these metastases as any of his predecessors. We can hardly open a page of a French medical book, without finding some allusion to cases of phthisis, of dropsy, of epilepsy, of hypochondriasis, of mania, or some other terrible disease induced par une gale, ou un dartre repercuté, ou par du lait repandu. M. Alibert has by no means satisfied our doubts on this subject.

" Melancholy examples (says he) of herpetic metastases are every day presented to us by practitioners. They commonly take place in those organs which most intimately sympathise with the skin. A hypochondriac of a very irascible character was subject to vertigo, and other distressing symptoms, of which he was delivered by an eruption of herpes squamosus on the soles of the feet. This patient chose to be treated by acrid and spirituous remedies. He was attacked with hydrocele, of which he was cured by an operation; and the wound being already closed, there was discharged, with great relief, from its surface, a serous exudation of several ounces daily, during two weeks. But this man, contrary to all advice, closed this issue, and, immediately after, was attacked with hepatitis, which, being cured, was followed by a maniacal delirium, which lasted several months. The cicatrix of the scrotum again opening itself, discharged a new quantity of the serosity, which soon dried up Afterwards, there appeared a herpes miliaris, and then exedens, accompanied with severe pains. This erruption being again repelled by external remedies, the patient was afflicted with severe pain of the ears. This being happily relieved, the herpes returned to the extremities, and, with it, health was re-established.

Lastly, in consequence of another repulsion of this eruption, caused by a venereal complaint, he was seized with pungent pain in the breast, and expectoration, at first bloody, and then purulent, with extreme emaciation, and other symptoms of pulmonary consumption.

"At the Hospital St Louis I witnessed the translation of an herpetic irritation to the organ of vision. Anne Jourdet, sempstress, was attacked on the face with herpes pustulosus gutta-rosea, at the first appearance of her menses, that is, about her fifteenth year. This herpes discovered itself in the form of very small pustules, which slowly suppurated, and were converted into crusts. It disappeared in consequence of the application of several cooling topics; there occurred chronic inflammation of the eyes, with loss of sight. About a year afterwards, the herpetic eruption returned, in consequence of an issue placed in the neck. Leeches, blisters, and scarifications were successively employed, but with slight advantage."

"A lady about sixty-five years of age laboured under herpes squamosus madidans, which covered the whole anterior part of the abdomen. She was advised to dry up this discharge by an application of very hot flour. What happened? The eruption disappeared in about eight days; but from that time the patient experienced an insupportable heat in her stomach and bowels, a burning thirst, which obliged her to drink incessantly, and which was never quenched, although she had constantly mucilaginous and cooling drinks. Her saliva became thick and fetid, and, to crown all, she became completely blind.

"Herpes is frequently repelled upon the parts within the chest, and appears to fix itself for a longer or shorter time on the secreting surface of the lungs. Respiration becomes difficult, and even painful. Expiration is often accompanied with an obscure sound, similar to that observed in croup. These symptoms I particularly remarked in one Julie Picard, who imprudently used a cold bath. I succeeded in relieving these symptoms, but not until I had recalled the herpetic affection to the surface of the body, by the application of a large blister to the breast, and by the exhibition of the most powerful diaphoretics."

"A multitude of facts are to be found in writers, which establish the translation of herpes to the liver, to the uterus, to the bladder, and to other viscera, and, on the contrary, from these to the cutaneous periphery; which proves to demonstration, that this genus of eruption may attack the mucous membranes, as well as the external integuments. In these circumstances different symptoms arise, according to the situation of the part affected.

"Are there any pathognomic symptoms which distinguish diseases produced by the repulsion of herpes? This phenomenon is always accurately appreciated at the hospital St Louis, and we are seldom deceived. *When we observe that the fever is violent without having been preceded by any severe and obvious cause; when, without any foreseen accident the patient is subject to symptoms and pains of extraordinary* *severity, then we have good grounds to suggest the repulsion of herpetic virus upon the organ chiefly affected with disease. But there is no longer any doubt, if the patient or assistant confess, that an eruption of herpes has suddenly disappeared.*"

The *causes of Herpes* are detailed under the heads of organic and external terms, which seem to be synonymous with the usual expressions, predisposing and exciting. The organic, or predisposing are, hereditary predisposition; peculiar temperaments, *e.g.* it is remarked, that those of fair hair and complexion are peculiarly subject to herpes furfuraceus, and squamosus; the bilious and melancholic to the herpes pustulosus; and the sanguine to the herpes crustaceus; suppression of catamenia, or of the hæmorrhoidal flux; repercussion of milk; preceding diseases, as small pox, syphilis, and itch; and a gouty or rheumatic diathesis.

The external and exciting causes, are varieties of climate and season, and especially the influence of spring; errors in diet, and particularly surfeits; and the abuse of stimulating and indigestible food and drink; fatigue, violent exercise, and excessive watching;—or the contrary of these, indolence, poor and bad diet, and inattention to cleanliness; the circumstances attending the exercise of particular professions, cooks, bakers, millers, starch-makers, tanners, and miners, are especially liable to these cutaneous affections; mechanical irritation of the skin, a scratch in one case excited the herpes custaceus florescens; and passion of the mind, chagrin, grief, anger, and the like.

The next two sections treat of the seat of herpes, and of the appearances discovered by dissection. The organ especially affected in herpes seems to be the corpus reticulare of the skin. The dissection of the dead does not appear to have exhibited any thing really essentially connected with the disease; nor has chemical analysis been more successful; the herpetic scales, indeed, yielded albumen, mucilage, muriate of soda, sulphate of soda, uncombined phosphoric acid, and phosphate of lime; the herpetic crusts were found to contain carbonate of lime, besides proportions of all the other matters found in the scales, with the exception of phosphoric acid in an uncombined state.

With regard to the treatment of these complaints, it is obvious that, with the intimate persuasion of the danger of repulsion, and the perfect belief of many dangerous diseases actually occurring from this cause, our author must proceed with great method and caution. We shall pass over, therefore, most of his preliminary and cautionary reflections, and briefly present our readers, with what appears to be the result of his experience of the efficacy of particular remedies, Of a number of internal remedies, such as the solanum dulcamara, scabiosa arvensis, arctium lappa, rumex patientia, fumaria officinalis, trifiolium fibrinum, viola tricolor, and saponaria officinalis, he has made extensive trials, without being able to satisfy himself, that they possess any very certain efficacy; and, upon the whole, he is disposed to attribute more of the good effects, which have taken place during their employment, to the baths commonly used at the same time, than to their specific virtues. In some cases, however, they appear to have the credit of the cures. A case of herpes squamosus madidans, was always relieved by a strong decoction of saponaria; and others have been obviously benefited, by the juice of the viola tricolor. Mercury is far from being specific in these complaints; it often does no good; but some cases have been cured by it. A young man affected with herpes furfuraceus circinatus, who had employed a variety of other remedies, without benefit, was cured by a solution of the muriate of mercury.

No remedy has been found more generally useful than sulphur, which is largely employed by him at the hospital St Louis, and generally, he says, with success. Nay, he is persuaded that antimonials, and many vegetables, are effectual only in consequence of the sulphureous principle contained in them. The sulphureous mineral waters, natural or artificial, are amongst the most approved and efficient internal remedies which can be employed for the cure of herpes. Where the disease is connected with deficient excitement of the skin, as indeed is commonly the case in herpes, the sulphureous waters agree well, and commonly do much good; but in irritable constitutions, and with some individuals subject to gout and epilepsy, or scrofula, they neither agree so well, or prove so successful. When circumstances like these oppose the intentions of the physician, these remedies must be discontinued, or employed much diluted. We doubt much, however, if any of our readers ever adopt the following ingenious conceit of M. Alibert.

A woman labouring under herpes was delivered of a child affected with the same disease, and, as the infant's life seemed in danger from the marasmus which ensued, something was necessary to be done; and yet our author could not venture to prescribe the more active sulphureous medicines to so tender a patient. He advised therefore that *a goat should be well rubbed with sulphur*, and the child nursed on its milk, by which means, by bathing, and by some unctuous applications, the disease was in eight months subdued. And from this time, says M. Alibert, "I have constantly followed the same practice in cases of herpes *occurring in delicate* women, whose constitutions could not *support sulphur in* any other form."

Whatever confidence, however, may be placed in particular remedies, it is always found necessary to pay due attention to the general treatment of the diseased. Much advantage is derived from purgatives. Tonics are also very useful, particularly where the organs of digestion are discovered to have their functions deranged. It has accordingly been found, that the bitter decoctions contribute much to the cure of the poorer patients commonly treated at the Hospital St Louis. On the other hand, when the subjects of herpes are opulent, indolent, and luxurious, diluents answer better than tonics. Salted and hung meats, rich ragouts, spirituous liquors, and generous wines, retard greatly the cure of herpetic eruptions; and, according to the observation of our author, directly oppose the effects of the best remedies.

With regard to external applications in these diseases, he remarks, that their effects are more certain and decisive than any of the internal; but that certain discriminations are necessary. When the skin is red and inflamed, and the eruption acute and recent, soothing and emollient applications are particularly indicated; and of this class, there is none comparable to the simple tepid bath, or baths prepared from decoctions of emollient herbs. When the skin is harsh and dry, as frequently happens in the herpes squamosus, the vapour-bath has done excellent service.

The natural and artificial sulphureous baths are useful in the greater number of these cutaneous diseases; and experience has amply confirmed their efficacy in many inveterate cases of herpes.

Of lotions or fomentations, that which is most highly recommended by Alibert is the artificial mineral water of Bareges, which is prepared by adding to tepid water a just proportion of sulphuret of potass, an equal quantity of a prepared mixture of sulphuric acid, carbonate of soda, and prepared alumine; or, instead of the sulphuric acid, water charged with six times its volume of carbonic acid gas.

Of other applications, in the form of ointments, cerates, and plasters, he knows of none equal to those of which sulphur forms the principal ingredient;—and, in very inveterate cases, he has found an ointment, composed of axunge and sulphuret of potass, to prove a very active topic. It excites at first a considerable degree of irritation, which changes the action of the skin, and opposes the progress of the disease.

Irritating and caustic applications are especially proper in the herpes exedens; and in such cases he has employed Dippel's animal oil with great success. When this disease is accompanied with much phlogosis, and lancinating pains, recourse must be had to anodyne and narcotic applications; and in such cases he has derived great advantage from cataplasms of hyoscyamus niger, and solanum nigrum.

In regard to blood-letting, as a remedy in herpes, he remarks, that it is only useful in the robust and plethoric, when the disease is attended with great heat and itching; and under such circumstances he has known it produce very good effects in the herpes crustacea florescens, and in the phlyctenoides zonæformis.

Blisters and issues are generally useful; and it is often observed, that, after the insertion of an issue, the other remedies become more effectual. In some cases, blisters, immediately applied to the seat of the disease, by entirely changing the action of the skin, effect a speedy and perfect cure. In other cases, however, issues are more hurtful than useful. "J'ai souvent observé, par exemple, que lorsque la masse generale des humeurs etoit impregnée du vice herpetique, il survenoit constamment une dartre squammeuse dans l'endroit meme de la peau, ou le vesicatoire avoit été appliqué."

IV.—*Ephelis.*

Under this genus are comprehended maculæ, or stains of the skin. These are met with on all parts of the surface, solitary, disseminated, or in groups. Some resemble lentiles; others assume the form of irregular patches, of various extent.

1st Species.—*Ephelis Lentigo**. Lenticular spots, scattered over the surface of the skin, or in groups, of a yellow, reddish, or brown colour; most commonly met with on the face, hands, arms, and breast, or generally on those parts of the body which are exposed to the contact of the air and sun.

Varieties.—A. Ephelis Lentigo *solaris.* Peasants and labourers, much exposed to the rays of the sun, are its particular subjects. The contact of the air is sufficient to produce it in certain individuals, where the lymphatic system is essentially weak.

B. Ephelis Lentigo *ignealis.* The custom which, in many countries, the women have, during the cold season, of warming themselves by means of charcoal stoves, placed under their feet, gives rise to this variety.

Exposure to the sun is the principal cause of the ephelis lentigo; and therefore the face, and other uncovered parts of the body, are chiefly deformed by these spots, which disappear during winter, and return in spring and summer.

Those who have a fine and fair skin, blue eyes, and especially those who have red hair, are the most liable to this cutaneous defædation. The ephelis lentigo is unattended with pain, heat, or itching.

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* Freckles.

2d Species.—*Ephelis Hepatica.* Spots much larger than those of the preceding species, of a saffron colour, sometimes terminating by a slight desquamation, and commonly met with on the anterior, lateral, or posterior part of the neck, or the abdomen; and especially on the region of the liver, or the loins and groins.

Varieties.—A. Ephelis Hepatica *persistens*, attacks principally sedentary and retired individuals. The spots are of irregular figures; some are large, encircling the neck like a cravat; the abdomen like a girdle, or covering the shoulders like large plates. They are no easily removed, and some remain indelible.

B. Ephelis Hepatica *fugitiva*. Women are very liable to this variety; circular and isolated spots on the posterior region of the neck, throat, bosom, and hypochondria, appearing and vanishing very speedily.

The colour of the ephelis hepatica is a yellow, like that of rhubarb or saffron, and sometimes of a paler hue, like the withered leaves of some trees. It is sometimes accompanied with a slight itching, and desquamation of the cuticle. The parts affected are observed to transpire less, and with more difficulty, than the healthy parts of the skin.

3d Species.—*Ephelis Scorbutica.* Extensive stains, of a dirty brownish colour, commonly met with on the breast, back, and external part of the arms and thighs, and sometimes on the whole surface of the body.

Varieties.—A. Ephelis Scorbutica *nigro-maculata*, the most common variety, found chiefly amongst the indigent poor, in prisons, in confined, damp, and unhealthy abodes. Sometimes, instead of appearing in spots, it is spread over the face, the thorax, abdomen, and indeed the whole body.

B.—Ephelis Scorbutica *variegata*;, more rarely met with. The body is painted with these spots, so as to give the resemblance of the skin of a leopard.

The ephelis scorbutica is not unfrequently seen on the skin of wretched beggars, and the inhabitants of confined prisons. These dark brown, or chocolate-coloured spots, are round or circular, and sometimes of more irregular figures. It is attended with itching, and dryness of the surface, from defective perspiration, and sometimes with a peculiar fetid odour.

The *general characters* of ephelides are, discolouration of the skin, generally without any sensible elevation of the affected surface; dryness of the skin, and obstructed perspiration; not contagious; of various and uncertain duration, sometimes appearing one day and vanishing the next, and sometimes enduring for months or years; yielding, in some cases, to the simplest treatment, by bathing and washing, and in others resisting every method that can be tried.

The organic or predisposing causes of ephelides, are a fair, fine, and delicate skin, flaccid integuments, florid complexion, and red hair; and derangement of the hepatic and uterine systems.

The exciting causes are, the conjunct operation of heat and light on exposed portions of the skin;—heat alone;—confined, damp, ill-aired habitations; bad and putrescent aliment; certain poisons, a case occurred to our author from arsenic having been taken;—distress of mind. As to the treatment, none appears effectual in the ephelis lentigo. Antimonial and sulphureous medicines are useful in the other species. When the disease is connected with disorder of the hepatic system, or of any of the other abdominal viscera, as is often the case, remedies directed to these lesions, as soap, aloes, and the bitter extracts, are advantageously employed. When allied to scrobutus, it is necessary to combat the general diathesis by appropriate treatment. But generally our author has observed, that purgatives and diuretics contribute much to the cure of ephelides, and by these alone he has cured many cases. The external remedies useful in these deteriorations of the skin are, baths, frictions, exercise, and tonic stimulant applications, as solution of extr. saturni, the juice of sorrel, ointments composed of the alkalis and metallic oxydes, salt water, and sulphureous baths.

V.—*Cancroidis.*

By this term is understood certain fleshy excrescences, sometimes oval, sometimes oblong, of a pale rose colour, intersected by white lines, and separated from each other, and resembling pretty accurately the cicatrices which happen after severe burns, having sometimes little bifurcated processes, shooting out towards their edges, somewhat resembling the claws of a crab, and hence the name by which our author has designated this tumour.

> "The cancroides which I have observed," he continues, "formed flat and compact tumors, raised at their borders, a little depressed at their centre, especially when of an oval figure, and rising from one to two lines above the level of the integuments. They were shining, a little wrinkled, hard and elastic to the touch, of a very red colour, and having their surface ramified with a number of small veins full of blood. When compressed, the tumors became for a moment paler; the epidermis of the affected part daily threw off a number of light scales. I have sometimes seen cancroides which were cylindrical, and as it were enchased in the skin. They had some re-

semblance to those long worms found in the cellular texture, and called by naturalists dracunculi.

"There is commonly a considerable increase of heat in the parts affected. The patients experience insufferable itching and pricking, acute and pungent pains, as if lances or red hot needles were thrusting through the flesh. These pains are often propagated from the tumor to the neighbouring parts, and sometimes there is a sensation of an interior thrilling. One would say that the breast is like to burst. These itching and burning pains are especially distressing at night. There are also cases in which these longitudinal, oval indurations, are as it were indolent, the patients scarcely experiencing more than a slight stiffness of the skin.

"Commonly there is but one cancroidis; but sometimes two or three are met in the same individual. This disease almost always occurs in the space between the breasts, at the posterior part of the arms and shoulders, and at the external part of the thighs. When the cancroides increase, they become excessively painful. I have seen a patient who was affected to that degree that he could not undertake any kind of labour, and who experienced a general weakness throughout all his members. The cancroides rarely disappear; they are as durable as cancers. Sometimes, however, they have spontaneously disappeared, the tumors subsiding, and the skin assuming the appearance of a well-cured cicatrix.

"Women are much more subject to this disease than men, which prove that, in cancroidis, the lymphatic system is essentially weakened. Many ladies are met with at Paris affected with this kind of tumor at the anterior and superior part of the breast, which they endeavour to conceal by means of discs, or other pieces of jewellery suspended from their necklaces.

"These tumors have often been extirpated, but they are not long of again appearing, so that the operations of surgery are in this case quite fruitless. I might bring forward many cases in which the operation seemed rather to increase the disease. The most active caustics have also been tried, but with no better effect. I have also tried to cure these tumors by the direct application of the fresh pulp of belladona, of the extract. opii, and extract. cicutæ, of camphor, acetite of lead, of sulphur, and of other applications of this kind; I have also made use of baths of artificial Naples and Bareges waters, &c, I have observed that these different topics procured some temporary relief; that the tumors became less spongy; but they soon afterwards regained their ordinary size. Neither have internal remedies been neglected; I have employed cicuta, several medicinal milks, different mineral waters, super-oxygenated muriate of mercury, but I confess the results were far from satisfactory; and here I must close what I had to say on this subject. It is enough that I have exposed the history of a disease, which no author before me has yet described."

VI.—*Observations on Cancer.*

This is not properly a cutaneous disease; our author therefore does not propose to give any thing like a complete history of its symptoms, and terminations, but merely to describe the appearances of those ravages which it makes when the skin is attacked, and to give the result of some experiments, proving that cancer is not of a contagious nature. Some of these experiments were made on dogs, and prove of themselves nothing; but others made by inoculating himself, and others, with the matter discharged from the cancerous ulcer, shew that the disease cannot thus be propagated by insertion.

Some cases are added of carcinomatous ulcers relieved by the application of the juice sedum acre, and two cures completed by the caustic of Rousselot.

III.

Observations on Fungus Hæmatodes, or Soft Cancer, in several of the most important organs of the Human Body; containing also a comparative view of the Structure of Fungus Hæmatodes, and Cancer, with Cases and Dissections. By James Wardrop, F. R. S. E. Fellow of the Royal College of Surgeons, and one of the Surgeons to the Public Dispensary of Edinburgh. Illustrated with Plates. Edinburgh, 1809. 8vo. pp. 205.

The morbid structure which forms the subject of these observations, has hitherto been very generally confounded with cancer. By some surgeons it has, indeed, been sometimes distinguished by the epithet of soft. Cases of this tumor occurring in the inferior extremities and shoulder were, however, first particularly noticed by Mr John Burns, under the name of spongoid inflammation; and others have since been described in the extremities, and in the female breast, by the title of fungus hæmatodes, by Mr Hay of Leeds. In the classification of Mr Abernethy, it is distinguished by the name of medullary sarcoma, and is described to have been found not only in the extremities, but also in the testicle, and in various parts.

Much, however was still wanting to complete the history of this tumor; and Mr Wardrop, whose attention was particularly called to the subject, from having had an opportunity of observing an example of it, in its early stage, affecting the eye-ball, and of tracing its whole progress to its fatal termination, has, in these pages, brought together a number of interesting facts and observations, which, if they do not complete the history, have enabled him to extend considerably our knowledge of the disease. The plan of his inquiry is stated to be,

> " To describe the appearances, and point out the character of fungus hæmatodes in some of the most important organs of the human body. As these may be more easily traced, and more distinctly and satisfactorily seen during the whole progress in the eye than in any other part, I shall first give a description of the disease in that organ; it will be next examined in the superior and inferior extremities, in the testicle, mamma, uterus, and ovarium, liver, spleen, lungs, and thyroid gland, in all of which its existence has been ascertained. Having done this, some general views of the change of structure in fungus hæmatodes will be pointed out, and a comparison made between it and the cancerous structure; the texture or textures in which it originates will also become an object of investigation; and, afterwards, such practical conclusions will be drawn from a review of all the facts in the history of the disease, as our data appear to warrant."

We shall now endeavour to lay before our readers a very abridged account of some of the most important of these observations. The numerous and ably selected cases which illustrate the text, and make the disease familiar to the intelligent reader, we must, for the present, pass over in silence.

The progress of fungus hæmatodes of the eye-ball appears to be marked by the following appearances. Dilatation and immobility of the pupil, an amber or greenish colour in the bottom of the eye, arising from a solid substance, which grows so as to occupy the whole posterior chamber of the eye-ball, where it has sometimes been mistaken for cataract, and advances at last towards, and occupies, the anterior chamber; the cornea ulcerates; the eye-ball becomes unequal and rugged; a fungous tumor shoots out, which rapidly acquires a great bulk; is generally of a dark red or purple colour, coated with coagulated lymph, readily torn, bleeding profusely, sloughing, and throwing out succesive growths, and accompanied with tumor and inflammation of the parotid, of the maxillary, and other neighbouring glands.

On dissection, a tumor is found in the posterior chamber, extending from the entrance of the optic nerve forwards, and displacing and destroying the humours of the eye. This tumor has the appearance of medullary matter, a white opaque homogeneous substance, of the pulpy tenacity of brain, and sometimes as soft as custard;

with filamentous cellular matter interposed. Though generally whitish, it has been found of a reddish, and of a dark brown colour, and almost black. Bony or gristly particles have sometimes been observed in it. The sclerotic coat is little changed, but all the other parts of the eye-ball are more or less disorganized. The retina has always been found completely changed, and the optic nerve, and sometimes the brain itself, are involved in the disease.

"In some cases the nerve retains its natural form, becoming thicker, much firmer and harder than natural, of a brownish ash colour, and losing that tubular appearance which is observed in the healthy nerve with the naked eye. In other examples of the disease, the optic nerve, besides being altered in structure, is split into one or more pieces, the morbid growth filling up the intervening spaces surrounding the different portions of the nerve, and forming one connected mass with the contents of the eye-ball. The divided portions of the nerve lose entirely their natural structure and colour, becoming soft and pulpy, and sometimes of a deep yellow hue. In some cases the nerve has a flesh-colour, and more of the texture of sound liver. In many no distinction can be made between the neurilema and medullary portions, whilst, in others, changes take place in the one which are not observed in the other. In the case formerly mentioned, where the contents of the eye-ball and external tumor had a very remarkable dark appearance, the nuerilema remained unchanged, but the medullary portion of the optic nerve had the same dark brown colour, as far up as the nerve had been divided in the extirpation of the eye-ball. After the patient's death, which was nearly five months after the operation had been performed, it was found, on dissection, that the same singular black appearance extended along the medullary portion of the optic nerve to beyond the union of the two nerves; and what is an important fact to the physiologist, this case proved, in a very striking manner, that the optic nerves do not decussate each other. The nerve of the right eye arose from the right side of the brain, and was healthy all the way to where it formed the retina, whereas the left optic nerve was black, from the place where it had been divided during the operation of extirpating the eye-ball, to beyond the union of the the two nerves."

One case only, that related by Mr Hayes in the 3d Vol. of the London Medical Observations and Inquiries, has come to the knowledge of our author, in which the retina or optic nerve appeared to be unchanged in structure. He is nevertheless inclined to think that the disease begins in the retina.

When the absorbent glands, in the progress of the disease, become enlarged, they are found to be converted into the same medullary-looking matter; and when they ulcerate, a very unhealthy sloughy sore is produced.

Out of twenty-four cases of this disease in the eye, twenty of them were patients under twelve years of age, a proof of its dissimilarity to cancer, which is for the most part confined to those advanced in years. Vision is commonly lost even before any disease is remarked to exist by the parents of such children. In a great proportion of cases, the patient appears to have received a blow, which brought on inflammation, and, a few days after, the coloured substance became perceptible at the bottom of the eye. In others, a slight redness of the white of the eye may be perceived, with indistinct vision, slowly increasing, with uneasy aching pain, till the eye-ball burst, and the fungus appear.

The conclusion from the whole is very melancholy. The disease has resisted the power of every mode of treatment; and the last resource, extirpation, has been equally unsuccessful. All, with the exception of one doubtful case, have terminated fatally. Probably the operation has been too long delayed, and performed not until the parts within the cranium were irrevocably diseased. Though the retina and optic nerve seem in every case very early affected, the earlier the eye is extirpated, the greater hope may be entertained of success. "It is an experiment, at all events, which well merits trial; and were I in any case to be assured of the existence of the disease in the early stage, I would have no hesitation in urging the performance of the operation."

In the extremities, fungus hæmatodes has been met with contiguous to the ankle and knee-joints, on the shin, calf of the leg, on the thigh, in the groin, and on the hip-joint, in the wrist, arm, fore-arm, and over the elbow and shoulder-joints. In these parts it has occurred at all the different periods of life. The first appearance is that of a small moveable tumor, smooth, equal, and firm, though not so hard as scirrhus. If deep seated, its commencement is less distinct; it advances slowly. When the swelling becomes large, it has a soft elastic feel, and a sense of fluctuation is sometimes so striking, that the swelling has been punctured to discharge the supposed contained fluid. But no fluid follows the operation. If the tumor be thus opened, or when the covering skin naturally ulcerates, a fungus begins to rise, which rapidly increases in bulk. The fungus is round, ragged, and unequal in its surface, of a dark red colour, easily torn, and bleeding on the smallest friction. It has generally a very narrow neck, and, in some cases, spreads out so much as completely to cover the edge of the ulcerated integuments. When the fungus acquires a very large size it sloughs, and renders the discharge extremely fetid, and hæmorrhage often *takes place.* The degree of pain accompanying the disease is various. When the tumor is small the pain is trifling, but as it enlarges it becomes more tender; in some cases it has a sharp stinging pain darting through it; and when the disease is far advanced, it is generally attended with acute pain.

In the progress of the disease, the absorbent glands, in the course of circulation, are contaminated and become enlarged; and, as the fatal termination approaches, the swelling of the glands, and the number affected are often prodigious, particularly in the inferior extremities; for here the glands, along the course of the iliac vessels and aorta, all contribute to form one formidable disordered mass within the abdomen.

On dissection of fungus hæmatodes in the extremities, the primary tumor exhibits the true medullary structure, and is commonly found to consist of distinct portions or lobes, separated by thin membranous intersections; colour pale grey, or brownish red. Some portions, in colour and texture, resemble brain; some are of a deep yellow, like the yolk of egg; and others resemble coagulated blood or liver The affected absorbent glands acquire a structure similar to that of the original tumor.

All remedies are useless against this disease. The removal of the tumor by the knife has been in many cases attempted; but in all the practice was unsuccessful, the disease afterwards returning at the place from which the tumor was removed. The only chance, therefore, of saving the patient's life, is by early amputation of the limb.

In the testicle the progress of the tumor is at first slow, and attended with little pain. When it has acquired a considerable bulk, it is soft and elastic, and communicates to the touch a sense of fluctuation so imposing, that it has been mistaken for hydrocele; from which it may be distinguished by the history of its rise and progress, by want of transparency, and by its greater comparative weight. When very large, the softness becomes more unequal, and, in some places, the tumor feels hard; the scrotal veins become varicose, and the inguinal glands and spermatic cord become diseased. In no case, within our author's knowledge, have the inguments of the scrotum given way; the irritation and fever, it is observed, created by the extent of disease, seem to cut off the patient before ulceration could take place. Fungus hæmatodes affects the testicle, as well as most other organs, more frequently in early life. In many cases the disease has appeared to originate from a blow, or other local injury. The termination of the disease has been uniformly fatal; all who have been cut for it have died; our only future hope, therefore, is in an earlier operation.

In the dissections of those who have died in consequence of fungus hæmatodes of some of the external parts already described, tumors of the same medullary structure have been frequently found in some of the internal organs. Examples are accordingly given of fungus hæmotodes, or structures similar to this, which were discovered in the liver, in the spleen, and in the kidney.

The soft tubercle or tumor of the lungs, described and delineated by Dr Baillie, is believed to be referable also to this disease.

An example of fungus hæmatodes in the uterus occurred to Mr Burns; and our author thinks, that a disease of the ovarium described by Dr Baillie, in which the organ is converted into a pulpy matter, and a similar case he has himself met with, show that the ovary is subject to this change of structure.

In the description which Mr Hey has given of fungus hæmatodes, three cases are mentioned where the female breast is said to have been affected by it.

" In none of these cases, however," continues Mr Wardrop, " nor in two others which I carefully dissected, and which appeared to be very analogous to those mentioned by Mr Hey, was there that medullary structure in any part of the tumor, which has been found to be a constant appearance in fungus hæmatodes in all the other organs where it has been met with. I would therefore be led to doubt the nature of the disease in the cases alluded to, had not fungus tumors arisen from the cicatrix; and being aware at the same time that a very considerable difference may arise in the appearance of this disease in the different organs, the natural structure of the mamma being as unlike that of the sound eye-ball or liver, as the same disease in these organs."

This last remark, however we think of no great weight; the eye-ball and liver are as unlike in structure as any two parts of the body can be, and yet the medullary structure of fungus hæmatodes is found in both. From the cellular structure of the tumor of the mamma, the interposed transparent glairy fluid found in the cells, the firm membranous intersections found in it, and the want of medullary character, we perfectly agree with Mr Wardrop, that the propriety of referring this tumor to fungus hæmatodes is very doubtful.

Having thus examined the appearances of fungus hæmatodes in the different parts of the body where it has been found, our author sums up the the whole, by exhibiting a comparative view of the structure of fungus hæmatodes and cancer.

Scirrhous is hard, firm, and incompressible, composed of opaque fibrous septa, variously arranged, with a softer inorganic semi-transparent glutinous substance interposed. The tumour is destroyed by the process of ulceration which ensues, and which consumes in its progress also the neighbouring parts; and the fungus produced from cancer has a firm texture.

"Fungus Hæmatodes presents, on dissection, a very different series of phenomena from the scirrhous tumour. When it appears in the external parts of the body, and has not yet acquired a considerable bulk, instead of being hard and unyielding, it is soft and elastic, and has an equal surface, giving, in most cases, more or less a sense of obscure fluctuation. Its form, when taken out of the body, is determined and accurately circumscribed, having generally a distinct covering of condensed cellular membrane. In place of the hard fibrous-looking substance, the principal component part of scirrhous tumours, the morbid growth in fungus hæmatodes consists of a soft pulpy matter, which mixes readily with water, and is hardened by acids, and by boiling in water; and it has been also compared by all who have attempted to describe it to medullary matter, in colour and consistence. When the skin or covering of fungus hœmatodes has been eroded by the progress of the disease, instead of the morbid growth being destroyed by ulceration, a fungus arises from it, and the tumour seems only to increase more rapidly in bulk. If the fungous hæmatodes is not interrupted in its progress, both the original tumor, and the fungous mass growing from it, attain a large size; and the fungous, instead of having a firm texture, like that which arises from the cancerous ulcer, is a dark red and purple coloured mass, of an irregular shape, and of a soft texture, is easily torn, and bleeds profusely when slightly injured."

Fungus hæmatodes is found to exist in a greater variety of organs, as in the liver, spleen, kidney, and lungs, organs where the scirrhous structure has never been demonstrated. Those advanced in life are most subject to cancer; fungus hæmatodes is rather to be considered as a disease of early life.

In what particular system, or texture of the organs, does fungus hæmatodes originate?

"It appears certain, that in all those cases in which the disease affected the eye-ball, we were ignorant of its existence, before either the optic nerve or retina were changed. In all of the cases, an alteration in the structure of the retina, and an imperfection in the exercise of its functions, were the first symptoms of the disease; and in those cases where the disease advanced farther, no remains of the retina could be detected; and the structure of the optic nerve itself, was changed, even, in some, as far as the thalamus. In one case, the optic nerve, besides its alteration in structure, was split into different portions by the tumor, which latter seemed to be formed in its external structure. In another case, the medullary portion of the nerve was changed, and the disease extended just to that place where it loses its neurilema, and becomes altogether medullary. In other cases, the neurilema and medullary portions were equally changed."

These observations would lead to a conclusion, "that the disease consists in a morbid change of the nerve itself, and that a growth of medullary matter takes place in this disease, analogous to what is observed in new formations of bony matter, of fat, of skin, or of blood-vessels."

When we reflect on the great variety of organs in which this growth is met with, it appears to us more probable, that the medullary tumor is a morbid matter sui generis, which may originate in more structures than one.

But, as our author well observes, "it is extremely difficult to bring forward, on this part of the subject, any thing conclusive. It remains, therefore, an object of most interesting inquiry, if in other parts of the body, which are affected with this disease, besides the optic nerve and retina, any structure of the nerves of the organ can be detected."

IV. & V.

Pharmacopoeia Collegii Regalis Medicorum Londinensis. London, 1809. pp. 177, 4to. and a pocket edition, pp. 156, 12mo.

Pharmacopoeia Collegii Medicorum Regis et Reginæ in Hibernia. Dublin, 1807. pp. 297 8vo.

The publication of a national pharmacopoeia, is an object of the highest importance, not only to the members of that branch of the profession whose practice it ought to regulate, but of the community at large, upon whom that practice is exercised. It would be insulting our readers, to offer any proofs of the necessity of cultivating the art of pharmacy, and of its intimate connexion with our success in the art of curing disease. It furnishes the tools with which we work, and if these be deficient or ill-contrived, all our efforts will be of little avail. Some physicians, indeed, have represented the practice of pharmacy as degrading, and have even boasted of their ignorance of its principles. But such unworthy brethren are either to be pitied for their folly, or despised for their affectation. On many occasions, it would indeed be absurd for the artisan to prepare all his tools with *his own hands*, but he must be able to judge of them. He must know whether they are well manufactured, and whether they will suit his purpose; and he will derive great advantage, by being able to direct the manufacturer how to correct and improve them. If, in any art, a perfect knowledge of the instruments employed be indispensably necessary, it is in medicine. We do not receive them from the hands of the manufacturer perfect and ready for use, but, as it were, in a rough and unconnected state, to be afterwards finished and adjusted, so as to suit the infinite variety of circumstances under which they are to be employed. For many ages, physicians had their favourite remedies and nostrums, made up by their own servants, and under their immediate inspection; but after the progress of science had led to a division of labour, inconvenience arose from the inequality and want of uniformity in the compositions of different apothecaries. At first, the recipes of particular individuals were generally adopted, or their publications were tacitly followed; but the multiplication of authorities again led to confusion, and to correct all these evils, it became necessary to fix upon some standard, and to enforce obedience to it. The performance of this duty was, in some instances, entrusted to the medical faculty of a university; in others to a medical corporation or college; always to the most learned and dignified physicians of the state, and in no instance to practising apothecaries; which, by the way, clearly evinces, that a knowledge of the science of pharmacy, was considered by the legislature as pertaining chiefly, if not exclusively, to the physician.

The College of London published their first pharmacopoeia in 1618; that of Edinburgh in 1699; and lastly, that of Dublin, in 1807. This multiplication of dispensatories, is a great and serious inconvenience. It were better to have only the worst of these codes, than more of them. Because colleges of physicians have a right to publish pharmacopoeias, they seem to think that they ought to do it; and, then when they resolved upon it, these grave and learned bodies have not contented themselves with improving upon the works of their predecessors; but have varied and altered, as it were from mere caprice, and the desire of differing. This charge is heavy, but it is easily substantiated; and we wish to impress the members of the Royal Colleges, that, uniformity of pharmaceutical practice, is on many occasions, even to supersede improvement, and is never to be sacrificed to whim or the spirit of contradiction. It is almost to be wished, that the legislature, would either deprive two of the colleges of this useless right; or, rather, that it would supersede the authority of all, by a commission to delegates, chosen from each, to compose and prepare a general pharmacopoeia, which alone should have authority over the whole empire and its dependencies.

But as such a reform is scarcely to be expected, it may be worth while to say a few words concerning the general principles upon which, in the present circumstances, any of our local pharmacopocias is to be improved or republished.

There are three objects to be attended to; the state of the science, the preceding edition, and the pharmacopoeias of the sister kingdoms. In most cases, regard is to be had to the former edition of our own, rather than to the pharmacopoeias of our neighbours, and to the state of the science rather than to either. But these preferences are merely relative as to degree. An ambiguous or trifling improvement is to be disregarded when it interferes materially with what has been established and rendered familiar by long use; and, on some occasions, a strict adherence to the progress of science, as well as an established form, may, with advantage, yield to an assimilation with the other pharmacopoeias, which is likely to introduce a permanent uniformity between them. Of course, we strongly deprecate that obstinate spirit of contradiction, which rejects improvements, merely because they have been anticipated by others; or if they are compelled to adopt them, still modifies them by frivolous and often hurtful alterations, merely for the sake of differing. Equally hurtful is that silly desire of novelty, that indiscriminate adoption of every novelty, as if change were synonymous with improvement.

The Royal College of Physicians in London, in publishing their last pharmacopoeia, had to keep all these objects in view. They had to attend to the state of the science, to their former edition, which had so long been the code followed by all those for whom they were preparing a new one; and they moreover had to attend to the manner as well as the substance of the improvements made in the recent pharmacopoeias of the Dublin and Edinburgh Colleges. The Dublin College, in publishing a pharmacopoeia for the first time, were free from the last of these sources of embarrassment.

In the selection of articles, two opposite extremes must be avoided. There must be no active substance omitted for which there is no preferable substitute, and there should be a sufficient variety of each class to suit every variety of circumstance and idiosyncrasy. Opium is undoubtedly the best of all the narcotics, yet hyoscyamus and hop are valuable additions to our materia medica. On the other hand, we must not load our list with insignificant articles and useless succedaneums. For the inconveniences, arising from want of attention to selection, it is only necessary to consult the older pharmacopoeias. Still, however, of the two faults this is the less, "*Praestat, enim, ut nobis videtur, copia quam penuria premi.*" In rejecting articles already contained in a pharmacopoeia, and in admitting new ones, attention must be paid to consistency. Indeed, a less degree of favourable testimony ought to retain a doubtful article, than procure the insertion of a new one. By inattention to this principle, our pharmacopoeias often exhibit strange absurdities. Articles are rejected from one edition which are resumed in the next, and others are admitted, which, upon a republication, are rejected for ever. Of the alterations of the London College in this edition, the following complete tables of articles, rejected and added, will give a tolerably correct view.

They have rejected from their list of simples, Abrotanum, Absinthium maritimum, Angelica, Arnica, Arum, Aurantii Hispalensis folium et flos, Bardana, Beccabunga, Bolus Gallicus, Calx (now a preparation), Cancer, Carduus benedictus, Caryophyllum rubrum, Cicutae flos et semen, Cinara, Cochlearia hortensis, Corallium rubrum, Cubeba, Curcuma, Cydoniae mali fructus, Enula campana, Eryngium, Foenum Graecum, Ginseng, Granati floris petala, Guaiaci cortex, Hypericum, Ichthyocolla, Iris, Iuglans, Ladanum, Limonis essentia, (although prescribed for the preparation of the aromatic spirit of ammonia) Majorana, Marum syriacum, Melissa, Millepeda, Minium, Myristicae oleum essentiale et oleum expressum, Macis, Narturtium aquaticum, Olivae fructus, Pareira brava, Parietaria, Pentaphyllum, Petroselinum, Prunus sylvestris, Quassiae cortex et radix, Ribes nigrum et rubrum, Rubus idaeus, Salvia, Sambuci cortex interior et bacca, Sanguis draconis, Santonicum, Sarcocolla, Sassafras radicis cortex, Scordium, Sium, Tanacetum, Taraxaci herba, Tartarum, Tutia, Urtica, Vitriolum album (now a preparation), Zedoaria.

The preparations rejected are, Acidum acetosum, Aluminis purificatio, Antimonium calcinatum, A. praeparatum, A. vitrifactum, Aqua zinci vitriolati cum camphora, Cancrorum chelae praeparatae, Ceratum resinae flavae, Cataplasma aluminis, C. cumini, Conserva Absinthii maritimi, C. lujulae, C. ari, C. pruni sylvestris, C. scillae, Corallium praeparatum, Crocus antimonii, Decoctum pro fomento, Emplastrum ladani compositum. E. thuris comp. Extractum cascarillae, E. cacuminis genistae, E. hellebori nigri, E. rutae, E. sabinae, E. sennae. Ferri rubigo. Hydrargyrus acetatus, H. cum sulphure, H. muriatus mitis, H. vitriolatus, Infusum sennae tartarisatum, Liquor volatilis cornu cervi, Mel scillae, Millepedae praeparatae, Mucilago tragacanthae, Nitrum purificatum (now in the list of simples), Oleum animale, O. cornu cervi, O. petrolei, O. sassafras, O. sinapeos, O. terebinthae (now inserted in the list of simples), Opium purificatum, Oxymel colchici, Petroleum sulphuratum, Pulvis aloes cum canella, P. aloes cum ferro, P. asari comp. P. cerussae. comp. P. chelarum cancri comp. P. myrrhae comp. P. scammonii compositus cum aloe. P. scammonii cum calomelane, Resina flava (now a simple), Sal succini, Sal succini purificatus, Sal volatile cornu cervi, Stanni pulvis, Succinum praeparatum, Succus cochleariae comp. S. baccae sambuci spissatus, S. limonis spissatus, S. Ribis nigri spiss. Syrupus caryophylli rubri, S. violae, S. ribis nigri, S. rubi idaei, Tinctura balsami peruviani, T. balsami tolutani, T. cinchonae ammoniata, T. galbani, T. sabinae comp. Trochisci omnes, Tutia praeparata, Vinum antimonii, V. rhabarbari, Unguentum adipis suillae, U. cantharidis, U. cerae, U. tutiae.

They have added to their list of simples, Arsenici oxydum, Belladonnae folia, Cajuputi oleum, Carbo ligni, Cinchonae cordifoliae cortex, C. oblongifoliae cortex, Cuspariae cortex, Cerevisiae fermentum, Dauci radix, Dolichi pubes, Dulcamarae caulis, Euphorbii gummi resina, Fucus vesiculosus, Humuli strobili, Hyoscyami folia et semina, Lapis calcareus, Lichen Islandicus, Linum catharticum, Allium porrum, Resina flava (formerly a preparation), Ricini semina, Salicis cortex, Sapo mollis, Sodae sulphas (formerly a preparation), Terebinthinae oleum, (do.) Toxicodendri folia.

They have added to the list of preparations, Acetum Colchici, Acidum citricum, Antimonii oxydum, Arsenici oxydum praeparatum, Aqua carui, Calx (formerly a simple), Cataplasma fermenti, Ceratum, Ceratum sabinae, Confectio amygdalae, C. rutae, Cuprum ammoniatum, Decoctum aloes compositum, D. dulcamarae, D. lichenis, D. quercus, D. papaveris, D. senegae; Emplastrum ammoniaci, E. opii, Extractum aconiti, E. aloes, E. belladonnae, E. colocynthidis, E. humuli, E. hyosciami, E. opii, E rhei, E. sarsaparillae, E. taraxaci, Hydrargyri oxydum cinereum, Infusum anthemidis, I armoraciae comp. I. aurantii comp. I. calumbae, I. caryophyllorum, I. cascarillae, I. catechu, I. cinchonae, I. cuspariae, I. digitalis, I. lini, I. quassiae, I. rhei, I. simaroubae, I. tabaci. Linimentum camphorae, L. hydrargyri compositum, L. terebinthinae, Liquor arsenicalis, L. ferri alkalini, L. hydrargyri oxymuriatis, Mel Boracis, Mistura ferri composita, Mistura guaiaci, Oleum Pimentae, Ol. anthemidis, Pilulae cambogiae comp. P. ferri cum myrrha, P. hydrargyri submuriatis, Potassae carbonas, Potassae supersulphas, Pulvis kino comp. Sodae carbonas, Sodae subcarbonas exsiccata, Spiritus aetheris aromaticus, Syrupus sennae compositus, Tinctura capsici,

sici, T. digitalis, T. guaiaci, T. humuli, T. Hyoscyami, T. kino, Vinum opii, Unguentum hydrargyri nitrico-oxydi, Ung. picis aridae, Ung. sulphuris comp. Ung. zinci

The Dublin Pharmacopoeia, in regard to selection of articles, was characterized by the insertion of various articles, not in either the London or Edinburgh Pharmacopoeias; and by the omission of other articles contained in both. The following are the simples inserted: Acidum citricum crystallis concretum, Cepa, Chamaedrys, Dulcamara, Geum urbanum, Hirudo medicinalis, Lichen Islandicus, Linum catharticum, Litmus, Lythrum salicaria, Manganesium, Quercus marina, Rheum undulatum, Rumex aquaticus, Salix, Salix fragilis, Scrophularia, Virga aurea. They also introduced the following preparations: Acidum muriaticum dilutum, Aqua oxymuriatica, Aqua alcalina oxymuriatica, Aqua sulphureti kali, Murias sodae siccatum, Aqua sulphureti ammoniae, Antimonii oxydum nitromuriaticum, Arsenias kali, Acetas ferri, Tinctura acetatis ferri, Tinctura acetatis ferri cum alcohol, Sulphuretum ferri, Hydrargyrum cum magnesia, Tinctura muriatis ferri cum oxydo rubro, Liquor aethereus oleosus, Pulvis Asari comp. Pulvis querci marini, Infusum menthae comp. Inf. valerianae, Aqua picis liquidae, Decoctum digitalis, D. Lichenis Islandici, Tinctura Angusturae, T. moschi, T. quassiae, T. gallarum, Oleum essentiale foeniculi, Ol. ess. Rutae, Extractum absinthii, E. jalapii resinosum. E. taraxaci, E. opii aquosum, E. quercus, E. valerianae, Syrupus alei, S. sennae, S. opii. Enema catharticum, E. foetidum, Cera flava purificata, Unguentum sabinae, Emplastrum calefaciens.

The articles contained in both the other pharmacopoeias, which the Dublin College omitted, are, Althaea, Angelica, Apium petroselinum, Cinara, Contrayerva, Iris florentina, Laurus nobilis, Malva, Melissa officinalis, Mastiche, Sanguis draconis, Cynosbatus, Rumex acetosa, Sisymbrium nasturtium. The preparations omitted were, Oleum sulphuratum, Antimonium vitrificatum, Murias antimonii, Crocus antimonii, Virum tartritis antimonii, Oxydum plumbi rubrum, Zinci oxydum praeparatum, Pulvis calcis compositus, P. scammonii comp. Pulvis opiatus, Succus cochleariae comp. Extractum papaveris, Vinum rhœi, Spiritus menthæ, Syrupus rhamni cathartici, S. rosæ damascenæ, S. tolutanus, Electuarium opiatum, Conserva rosæ caninæ, Trochisci calcis, T. glycyrrhizae, T. nitratis potassae, T. gummosi, Unguentum infusi meloes vesicatorii, Ceratum oxydi zinci.

Upon these changes, few remarks occur. The articles omitted are, in general, either insignificant, or inferior to others of the same description, or are not to be procured in the shops, while the additions are in general judicious. Some exceptions might,

however, be pointed out, such as the insertion of Allium, Cepa, Fucus vesiculoss, Litmus, Lythrum salicaria, Rumex, Scrophularia, Virga aurea, Chamaedrys. While the liquor ferri alkalini of the London College, seems an important addition, as being of a chemical constitution totally different from all those formerly received, and even the Vinum ferri of both London and Dublin is a useful chalybeate for children, we cannot discover the grounds upon which the Dublin College has swelled the list of chalybeates, by so many new preparations, which serve only to perplex and confuse. On the other hand, we approve highly of the example which it has set of giving formulæ for active and much used extemporaneous prescriptions. We also think that the London College have been too scrupulous in not inserting bismuth and the preparation of its oxide, which has acquired considerable reputation since the publication of the other colleges. If no new remedy were to be admitted until its efficacy were demonstrated, no addition would ever be made to our Materia Medica. For the introduction of a new article, it is sufficient that there is respectable authority in its favour, and that it is frequently used; and when there is any difficulty in its preparation, a formula for that purpose becomes almost indispensable.

The mode of describing the articles of the materia medica, adopted by the London College, is very distinct. In the first column, we have the name of the article as it is to be written in prescription, and in the second, its systematic name, according to the modern nomenclature for chemical articles, to Gmelin's *systema naturæ* for animal substances, and to Willdenow's *species plantarum* for vegetables, unless in a few instances, where recent discoveries have required a deviation from his authority. In this column, is also specified the part of the plant, when only a part is used, and the chemical nature of the vegetable and animal products. This mode is preferable to those of the other colleges, in which it is not always very clear, what is description and what is name. On the other hand, the exact systematic references inserted by the Dublin College, are a valuable addition, and are to a certain extent judiciously adopted by Dr Powell. We do not regret the omission of the synonimes by both colleges. As retained by that of Edinburgh, they are often ambiguous; sometimes referring to the plant itself, and at others to the particular part in use.

The Dublin College were doubtful, whether Barbadoes aloes was the product of the *Aloe sinuata*; the London now, on the authority of Dr Sibthorpe, refer it to a species to be described by him under the title of *Aloe vulgaris*. Gum Ammoniac is referred by the latter, on the authority of Willdenow, to the *Heracleum gummiferum*, which he raised from seeds found among the gum. Almost all doubts on the subject would be removed, if those who have an opportunity, would compare Willdenow's figure, with that given of the ammoniac plant, in Jackson's travels in Morocco The cajuput oil is referred to an unclassified species, now first called *Melaleuca cajuputi*; but in all probability it is also obtained from the *M. leucadendron.* Much confusion has existed, with regard to the plant furnishing the lesser cardamom seeds; on the authority of an unpublished paper of Dr Maton's, it is referred to a new genus, *Elettaria cardamomum.* Indeed, this was the more necessary, as when Willdenow arranged the Scitamineous plants, they were very imperfectly known. The trees producing the different kinds of Peruvian bark, are now named after Zea. The tree which produces Angustura bark, was described by Willdenow, after specimens sent him by Bonpland, and called in honour of him Bonplandia; but the discoverer has given it the name of *Cusparia febrifuga*, which is adopted by the London College. In the description of *Nutgalls*, there is an error. *Cynips quercus folii* is given as the systematic name, and *nidus* as the part used. In fact, they are tubercles of the shrubby *Quercus infectoria*, accurately described by Olivier in his *voyage dans l'Empire Othoman*, excited by the deposition of the ovum of the insect, at the shoots of the young boughs. We do not know upon what authority the London College still states Kino to be a Gum resin, produced by a nondescript African tree, since it is certain that the greatest part of that now in commerce is the product of the *Eucalyptus resinifera* of Botany Bay; and Kino or Gum Dragon is not even mentioned by any of the recent African travellers, either as an export or a product of the country. This substance seems to be a kind of a stumbling block to the colleges, for that of Dublin has committed a singular error with regard to it, by referring it to the *Butea frondosa* on the authority of Dr Roxburgh. Now, that learned botanist certainly says, that the Butea produces a subtance resembling Kino, but is at pains to point out wherein they differ. Neither can Kino, with any propriety, be termed a gum resin. The experiments of Dr Duncan jun. and Vauquelin, incontrovertibly proved it to consist chiefly of a modification of tannin. It would be better termed a *succus concretus*, as manna. We think that the London College have done wrong in substituting the vague description of pitch, *Resina praeparata*, for the precise one, (Resina *empyreumatica*) previously adopted by that of Edinburgh. Gum tragacanth is now referred, on the authority of Olivier, to a new species, *Astragalus verus*; The ginger plant is now called, on the authority of Mr Reeve, *Zingiber officinale*; and Ipecacuan, on that of Brotero, to Callicoca ipecacuanha; tormentil, peppermint, mint, and fern, on that of Dr Smith. *Tormentilla officinalis*, *Mentha piperita*, *Mentha viridis*, *Aspidium filixmas*. About the resinous products of the pine tribe, there is considerable confusion among the different pharmacopoeias. The Edinburgh College give the name of Resina *alba* to the residuum of the distillation of oil of turpentine. The same substance is denominated Resina *flava* by that of London; while the Dublin College have a Resina *alba* in their pharmacopoeia; and a resina *flava* among their preparations, which would seem to be different names given to the same substance through inattention, did not the occurrence of both afterwards among the ointments lead us to suppose that different substances may be actually meant. The Dublin College also use *thus* in some prescriptions, although they have neglected to insert it in the Materia Medica. It is much to be regretted that the colleges have not adopted the same specific gravity for the standard strength of the same articles. The Dublin College thus did wrong in not following the others in regard to sulphuric acid; and both the Edinburgh and Dublin have deviated from the specific gravities originally assumed for rectified and proof spirit by the London College.

It would require a volume to contain all the remarks which might be made on the various processes of the different colleges. Most of them are undoubtedly well selected, and perspicuously described; but this is what we have a right to expect from public bodies, vested with great privileges, and entrusted with the power of legislating on this subject. It is on this account that we shall chiefly confine ourselves to pointing out what appear to us to be errors; as, from being sanctioned by such high authority, their evils are more seriously to be dreaded.

Acidum Sulphuricum Dilutum.—We really cannot conceive an excuse for the great impropriety of which the London College have been guilty, in altering so much the strength of this preparation. The reasons given by Dr Powell, their official translator, are altogether frivolous. "This mixture will be more conveniently made, and its dose more easily apportioned, than the former one." Good God! because it is a little less troublesome to measure than to weigh, his Majesty's liege subjects are every day to be exposed to the danger of being poisoned; and chemists, to the infinitely greater inconvenience of calculating the comparative quantities necessary in all their preparations; and which they themselves seem to have neglected in the *Infusum Rosæ*. If, indeed, they had adopted the proportions of the other colleges, for the sake of uniformity, the inconveniences resulting from so slight a change would have been more than counterbalanced; nor would we have censured them for preferring measurement to weighing, provided they had used such proportions as to keep the strength of the compound the same; instead of which, the diluted sulphuric acid of the present pharmacopœia is to that of the former as 15 to 10 nearly, 139 to 100 according to Dr Powell.

Acidum nitricum dilutum. This is exposed to the same strictures, and even in a greater degree, as the new formula gives a product having a relation, in point of strength, to that of the old, as 35 to 10!!! and not 16 to 10, as erroneously stated by Dr Powell.

Acidum nitricum. In preparing this acid, the London College formerly used equal weights of nitre and sulphuric acid. The proportion of the latter was notoriously too small; but instead of adopting that of the other colleges, they have run into the opposite extreme, and now prescribe two of acid to one of salt.

Acidum muriaticum. This process is improved, by putting a portion of the water into the receiver, to condense the acid gas, which would otherwise be lost.

Acidum benzoicum. Much improved, by adopting Scheele's process.

Carbonas potassae; Carbonas sodae. The London College have adopted Berthollet's ingenious process for saturating these alkalies with carbonic acid.

Liquor potassae subcarbonatis. This solution, of a known and uniform strength, is preferable to the spontaneous solution of the former pharmacopœia, still retained by the Dublin College.

We cannot conceive a good reason for the London College persisting in omitting the phosphate of soda. It is certainly the least unpleasant of the neutral purgatives.

Spiritus ammoniae. The London College now prepare this spirit, by combining directly rectified spirit with water of ammonia. The history of this preparation affords a curious example of want of knowledge, and blind submission to authority in pharmaceutic legislators. The recipe now adopted by the London College, and for which, we may infer from Dr Powell's translation, they were indebted to the Berlin Pharmacopœia of 1799, they might have got much nearer home. It was the formula of the Edinburgh pharmacopoeia of 1774. The Edinburgh College, indeed, changed it in their next edition for their present process, which, in its turn, they most strangely relinquished in 1792, to borrow from the London College that unchemical and ineffectual preparation, which the Londoners themselves have now justly rejected. It was even retained in the first impression of the last edition of Edinburgh in 1803, but convinced of its defects by actual experiment, the college resumed, in 1805, their good old process of 1783. The Dublin College, in their only edition, having all the three processes before them, selected the worst.

Liquor ammoniae carbonatis, is now prepared by the direct solution of the crystallized salt.

Oxydum antimonii. The London College have, we think properly, substituted the oxyd prepared by precipitating the muriate by means of a solution of subcarbonate of potass, for the great variety of oxyds formerly prepared by the agency of fire.

The London and Dublin Colleges have both admitted preparations of arsenic; the former arsenite, and the latter arseniate of potass. They have also both adopted the ammoniaretum cupri of the Edinburgh College, while the direct solution of that substance, adopted by the London College, is preferable to the fortuitous one of Dublin.

The Dublin College seems to have multiplied the preparations of iron unnecessarily, by having two tinctures of the muriate, and two of the acetate. The alkaline solution of iron, now first introduced by the London College, promises to be a real addition to the apparatus medicaminum, as it is a form of exhibiting a very excellent remedy, totally different from any in use.

Hydrargyrus purificatus. The London College have now reduced the excess of filings of iron, which they formerly ordered for this purpose, to a moderate but sufficient proportion.

Pulvis hydrargyri cinereus, prepared by precipitating the nitrate of mercury by carbonate of ammonia, was introduced by the Edinburgh College as an easy substitute for the black oxide obtained by long trituration. It is now discovered to be a triple salt, a subnitrate of mercury and ammonia. The process, however, of Saunders, now adopted by the London College, gives a black oxide; and it might perhaps be facilitated by precipitating a nitrate of mercury directly by lime water.

Hydrargyri nitrico-oxydum. The omission of the muriatic acid in this preparation is the dereliction of an error.

The purification of gum resins, by solution, still ordered, ought to be entirely rejected. For many purposes they are injured, and for none improved by it.

In preparing tinctures, fourteen days are now uniformly directed by the London College, as well as Edinburgh, instead of different lengths of time, as three, eight, &c.

In their former edition, the London College, very inconsiderately, ordered *distilled water* to be used for preparing the infusions, decoctions, syrups, &c. although every person must have looked upon it as a frivolous affectation of extreme elegance; and they should have foreseen that no apothecary would ever *follow their injunctions.* But if it had produced no other bad effect than a smile at the expence of such learned trifling, the error would not have been worth noticing. The serious evil consisted in their leaving the apothecary uninformed when distilled water was absolutely indispensable. In the present edition, this objection is obviated.

In the quarto edition of the London Pharmacopœia, two of the ingredients (glycyrrhizae radicis uncias tres, sacchari purificati libras duas cum semisse) are omitted by mistake. They are supplied in the 12mo impression.

We now proceed to make a few remarks upon the nomenclature of the colleges. The general principles we have discussed so fully upon a former occasion, that we have only to apply them in the present instance*. The Edinburgh College attempted to introduce a strictly scientific nomenclature, both chemical and botanical. The advantages expected from this revolution were, that it certainly increased the connection between pharmacy and science, that the necessity for ascertaining the scientific names would lead to improvements in science, and that it appeared to be the only basis upon which a permanent and universal nomenclature could be formed. The objections to it were its novelty, the consequent confusion, and the inconvenient length of some of its names, or rather descriptions, the impossibility of rendering it perfect, and the frequent changes to which it was exposed in the present progressive state of science.

The Dublin College, which published next, has thus described its nomenclature: "Vocabula chemica recentiora plerumque adhibemus, ita tamen ut ea quae ambigua esse videntur rejiciamus, neque verba usu sancita e loco detrudere semper audeamus; est ubi brevitati potiùs quam operosae ακριϐειᾳ, consuluimus." We cannot admit this description to be perfectly accurate. For in the Materia Medica, they have retained the old officinal names, even when they are chemical substances, as Arsenicum, Cerussa, Sal commune; and their nomenclature of the chemical preparations is heterogeneous.

The London College, which has published last, has also mentioned the basis of its nomenclature:

> "Quibus perpensis, nomina medicamentis dare, quantum fieri potuit, legitima, et naturæ cujusque congruentia, statuimus: sic tamen, ut provideremus ne titulorum amplificatio medicos impediat. Si pluribus igitur vocabulis opus fuerit, ut rei cujuspiam compositionem manifeste in appellando designemus, ei simplicius, etsi minus eruditum cognomen opponere maluimus."
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> "Quædam vero obnixius excusanda sunt, quæ videantur aut plus quam satis est ab usu populari discedere, ut *Anthemis* et *Lytta*, aut horidum quid ac barbarum sonare, ut *Potassa*. Diu tamen restitimus; *sed quid contra omnium* Physiciorum autoritatem facere, aut

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* Ed. Med. Journal

qui potuimus nomina Animalium, Herbarum, Lapidumve, ea retinere, quæ rebus omnino diversis Scriptores in eo genere principes imposuerant? Statius igitur esse putavimus nos in rudis ingenii crimen incurrere, quam anceps aliquid, et dubiæ significationis admittere, aut voce una atque altera ab universa chemicorum consuetudine dissentire."

We shall now make a very few remarks on the comparative nomenclature of the different Colleges, as exemplified in each class.

On the nomenclature of vegetable and animal substances, the following remarks occur: *Gummi-resina*, which has no definite character, and often gives a false idea of the chemical nature of the substances to which it is applied, should be laid aside; thus *Extractum* Aloes *Lond.* is better than *Gummi resina* Aloes, *Ed. Dub.* The London College also errs in applying it to Kino, and the Dublin to Guaiac. The application of *Resina*, by the latter, to Camphor and the concrete balsams, is objectionable on the same grounds. If minute accuracy be necessary, we have no objections to *Resina liquida*, *R. concreta*, *R. praeparata*, and *R. empyreumatica*; the balsams might also be distinguished into liquid and concrete.

The change of *Colomba* into *Calumba*, and of *Gambogia* into *Cambogia*, by the London College, is really puerile, if not hurtful, by altering their situation in the alphabetic arrangement. We at first thought that they had both been omitted.

The chemical nomenclature is a very extensive field of criticism. There is least difference between the Colleges in regard to acids. Yet Edinburgh is wrong in calling vinegar *Acidum acetosum*, while they retain the proper name, *Acetum*, in one of its compounds, the A. aromaticum; and in adding, contrary to their principles, the epithet *forte*, to express the acid in its pure state, the proper name for which is *Acidum Aceticum*, as used by the Dublin College, and most improperly transferred, by that of London, to distilled vinegar. The *Aqua oxymuriatica* of Dublin is very bad. It should have been *Acidum oxymuriaticum*, upon the same principles as *Acidum muriaticum*.

The Dublin College was very injudicious in its choice of *Kali*. It was evident that *potassa* would sooner or later be universally adopted; and accordingly the London College have relinquished *kali* as well as *natron*, and adopted *potassa* and *soda*.

In the names of the alkaline carbonates, there is still much confusion. Dublin has *Subcarbonas kali*, and *Kali* e tartaro, for substances which are both subcarbonates, and improperly denominated *Carbonas potassae*, and *Carbonas* potassae purissimus by Edinburgh, as *Carbonas* is now correctly applied to a more saturated potash by the London College; and we may remark, that these instances are conclusive in favour of never deviating, for the sake of convenience, from correct chemical nomenclature. *Carbonas* Sodae, Ed. Dub., must, on the same principles, be relinquished for the *Sub*-carbonas sodae Lond. Should not the *Carbonas* ammoniae of all the Colleges be *Sub*-carbonas? Even if the preparation should be retained, *Liquor volatilis cornu cervini*, Dub. is quite incongruous. *Magnesia* and *Magnesia usta*, Dub. are highly improper, especially the first, as it is correctly applied, by the other Colleges, to another substance; and in analogous instances, the Dublin itself uses *Carbonas*. Of the names now given to the neutral salts, the most objectionable is *Aqua Alkalina oxymuriatica*, Dub. for *Aqua oxymuriatis potassae*. The reasons for retaining both *Aqua sulphureti ammoniae*, Dub. and *Hydrosulphuretum ammoniae*, Dub. and for the difference in the titles, do not occur to us.

The nomenclature of the metallic preparations is not always so obvious. Of some the chemical constitution is not perfectly understood, and of others the exact names are too long for common use. Hence we have no objections to retain such proper names as *Calomelas*, *Calaminaris*, *Tutia*, which convey no improper idea of the composition. *Tartris antimonii*, Ed. *Tartarum antimoniatum*, Dub., and *Antimonium tartarizatum*, Lond., should certainly be *Tartris antimonii et potassae*. In defence of the London name, it has been said, that it has been thought better to express the triple-salts containing tartrite of potash, by the epithet *tartarizatum*. *Liquor arsenicalis*, Lond., should have been *L. arsenitis potassae*. *Tartarum ferri*, Dub. is bad. The same College calls red precipitate in one place, *Oxydum* hydrargyri *nitricum*, and in another, *Subnitras* hydrargyri. In the nomenclature of the preparations of lead, the London College is most correct.

We do not consider the practice of the London College, in placing the name of the base first, as any deviation from the chemical nomenclature; because, if it be not a matter of indifference, it is an improvement, as the name of the base is less liable to be affected by subsequent discoveries; as in compound substances, especially the oxides and carbonates, the base is more characteristic than the oxygen or acid; and besides this mode of writing has many advantages in an alphabetical arrangement. For saline solutions, the London College now uniformly use the term *Liquor*; the Edinburgh College *Solutio*, when they are prepared directly by the solution of a solid in water, and *Aqua* when there is no direct solution; but *Aqua* calcis should be *Solutio* calcis; the Dublin College use *Aqua* and *Liquor* indiscriminately.

It is much to be regretted, that the Edinburgh College used *Alcohol* to express a dilute state of the alcohol of chemists, especially as the latter is retained and properly named by those of London and Dublin. The London errs in the same way in giving the name of *Aether sulphuricus* to an impure state of the substance to which that name is properly applied by the other Colleges. The London College now give the name *Extractum* to the inspissated juices as well as the extracts, and *Mistura* to the emulsions as well as other mixtures; but they have certainly extended the use of Linimentum too far. *Linimentum* aeruginis may be excused, as characterizing an external application; but *Linimentum camphorae*, *Lin. camphorae comp.* and *Lin. saponis comp.* should certainly have been *Oleum camphoratum*, *Tinctura camphorae ammoniata*, and *Tinctura saponis et camphorae*.

The only subject remaining to be noticed, is the introduction of new liquid measures by the London College. In our observations on Mr Shuttleworth's useful pamphlet, on the uncertainty of compounding medicines by drops *, we suggested, that small quantities of fluids should be measured, and that the ambiguity arising from the application of the terms ounce, drachm, and grain, to measures of bulk, should be removed, by the introduction of new terms. Whether in consequence of our suggestion or not, is of no moment, but the London college have done what we wished. *Congius* is the only old term retained, as alone free from ambiguity. It is divided into eight *octarii;* each octarius into sixteen *fluidunciae;* each fluiduncia into eight *fluidrachmae*; and each fluidrachma into sixty *minima;* all measures of bulk. This is one of the changes made by them, which we have heard most condemned; but all the objections made are frivolous and unreasonable. If novelty were a sufficient objection to improvement, science must become stationary; and if we are to be prohibited from using terms which are not purely classical, we must cease to speak or write of chemistry. We do not say that the terms chosen by the London College are the best which could have been invented; and we wish that they had not used ounce and drachm as elements in their composition; but we contend that the principle is correct. Apothecaries will never weigh small quantities of fluids, as directed by the Edinburgh College; and the use of both weights and measures, in regulating the quantities of fluids, is incongruous and immethodical, and unless obviously distinguished by distinct terms, highly dangerous and reprehensible.

We intended to have made a few remarks upon the translations of these Pharmacopoeias by Mr Morison and Dr Powel; but this article has already swelled to so unreasonable a length, that we must postpone them to next number.

VI.

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* Ed. Med. Journal, Vol. v. p. 219.

VI.

An Inquiry into the Laws of Epidemics; with Remarks on the Plans lately proposed for Exterminating the Small-pox. By JOSEPH ADAMS, M. D. F. L. S. &c. 8vo. pp. 159. Johnson, 1809.

THOSE of our readers who have perused a work of Dr Adams, of which we formerly gave an analysis *, will not be surprised to hear that the author's attachment to *morbid poisons* remains undiminished; insomuch that he seems loath to witness the extermination of any of them, and while he favours the propagation of cow-pox, on the one hand, he deprecates any interference with the dissemination of small-pox, on the other. They will not be surprised to hear, therefore, that the principal object of this inquiry into the laws of epidemics, and the principal inference deduced from the consideration of these laws, tend to this point,—that it is improper to interfere with variolous inoculation! There are one or two circumstances, however, belonging to this publication, which may perhaps excite some emotions of surprise; particularly a *modest* apology, with which the author sets out, excusing himself for the long delay of which he has been guilty, in with-holding his opinions on this subject from the public, who must have been looking up (he seems to think) with anxious expectation to him, as the oracle upon whom they must rely for information; and in the next place, they may be surprised at the promulgation of a doctrine, as his own, which had previously been stated by others, to whom he makes no allusion.

After stating that the practice, which professional writers, who address the people at large, too often adopt, of appealing to the feelings and prejudices of their readers, has in some measure cast a suspicion on the motives of *popular* medical authors, Dr A. says.

> " This, it is hoped, will be admitted as an apology for having so long delayed to offer in print my opinion on a subject so immediately connected with my own engagements, and on which *the public has a right to demand the result of my inquiries.*"

We fancy that we hear the question from every side. Who is this timid man, who shrinks from the very appearance of suspicion, and whom nothing but a sense of imperious duty, and of the superlative knowledge with which he is gifted, could induce to commit himself to print? Can this be the Dr Adams, who, for the last six years or more, has been *incessantly printing* his opinions, and many of them for mere *popular instruction?* Who in publishing edition after edition, of "Answers to all objections against the Cow-pox,"—in writing a volume, called "A Popular view of Vaccination, &c." and another, called a "Guide to Madeira,"—in republishing the Reports of the Colleges of Physicians, &c. for general circulation,—in printing numerous papers in the Medical and Physical Journal, upon the cover of which his name appears *monthly*,—who, we say, in doing these things, has actually brought his opinions before the public of late more frequently than any physician in the three kingdoms? Can this be the same Dr Adams? We must answer in the affirmative; his titles and offices leave us no room for doubt of the identity of the writer.

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* See Vol. iv. p. 333, for July, 1808.

But with respect to the leading information, on which the author's conclusions are founded, and which he has the vanity to suppose that the public would "demand" of him as "a right," we fear that its originality stands on the same ground as the necessity for the apology above stated. The editors of the American Medical Journals have complained, that the Journal, which is now under the editorial management of Dr Adams, has frequently filled its pages with essays, taken without acknowledgment from their publications. To the very same source the doctrine, promulgated in the volume before us, is to be traced; but no allusion to its American authors is discoverable. The opinions which Dr Adams has adopted, originated among the physicians of New-York or Philadelphia, in consequence of their discussions respecting the origin and propagation of the yellow fever. To which of those physicians it is to be attributed, we have no opportunity of ascertaining for ourselves; but in a letter, which we published in our Journal of October 1st, 1809, Dr Hosack assigns the doctrine to the late Dr Bayley, of New-York, who "in his account of the yellow fever which prevailed in New-York in 1795, proposed a distinction between *contagious* and *infectious* diseases. He made use of the first term to denote such as are communicated under any circumstance of atmosphere, whether pure or impure, as small-pox, measles, &c. *Infectious* diseases he denominated those which are communicated in consequence of an impure or vitiated state of the atmosphere, *i. e.*, that the *impurities* of the atmosphere communicate the disease, not that the air contains any *specific material* derived from the patient, except such as may be *occasioned by want of cleanliness* [*]." This is the information which Dr Adams employs the greater part of his treatise to substantiate; and he, therefore, divides epidemic diseases into two classes, namely, *contagions*, and diseases *of infectious atmosphere.* We are disposed to think, however, that, had he seen Dr Hosack's letter, just quoted, before he published his volume, he would have adopted that gentleman's opinion, and that, in this case, " the result of his inquiries" would have been somewhat different.

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[*] See our 5th Vol. p. 427.

There is a degree of *circular* reasoning in Dr Adams's distinction of contagion from the infectious atmosphere ; *i. e.* the question is previously settled by the formation of an arbitrary definition. He thus commences Chapter III. " On Contagions."

> " From what has been said, it follows, that though most epidemic diseases are usually considered as contagious, yet we are not justified in calling a disease contagious, unless a person under it, translated among healthy people, induces a similar disease in some of them, and they again in others.
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> " Now we have seen, and it will be hereafter further illustrated, that this is not ascertained in ague, yellow fever, or plague ; and though hospital or jail fever may appear to be contagious, because those who are exposed to the atmosphere of those places are affected, yet *unless they remain in such an atmosphere*, or are *in crowded and ill-ventilated rooms* during their fever, *they are not found contagious to others*.
>
> " Another circumstance seems necessary to ascertain a contagion, namely, that it can only be excited by *a cause exactly similar to its effect.* Agues we know are excited by exhalations from the earth at particular seasons. The yellow fever is thought by some to be excited by similar causes ; and it is admitted by all, that it only occurs at certain seasons, and in certain climates. The same has been said of the plague. Influenza is known to depend on a particular constitution of the atmosphere. Hospital-fever is excited by the accumulation of the sick, whatever the nature of their complaints may be.
>
> " In all these respects, they differ from diseases universally admitted to be contagious. The most remarkable of these are small-pox, measles, and scarlet fever. These can only be excited by a cause similar to the effect. They may not only be conveyed at any season, climate, or temperature, but under all these circumstances, every person affected with either is contagious. It is highly important to mark this difference, because, in those epidemics which depend on season, climate, or constitution of the atmosphere, we may look with certainty to their termination, and even hospital fever may be exterminated by free ventilation.
>
> " But none of these prevents the spreading of a true contagion, &c."—" In one word, there is no climate, no season, no temperature, in which these diseases (small-pox, measles, and scarlet-fever) have not been epidemic ; and *that very purity of the air* which instantly puts a stop to hospital fever, will, perhaps be found *the fittest to convey contagions. All the* contagions above-mentioned may be conveyed by th

the air passing from a diseased to a sound person, or passing from a substance imbued with *air* from a diseased subject; nor have we as yet ascertained how much this effluvium may be diffused in common air, without losing its contagious property. Hitherto we know of only one boundary to contagions when they become epidemic; namely, that no one is subject to their effect more than once during life." p. 20, 22.

We have transcribed this long passage, as it contains the heads of Dr Adams's argument. Many of the points are correctly stated; but some of them are carried to far; and we cannot accede to the inferences deduced in general. The importance of distinguishing diseases, which originate from a local cause, from those which arise from a specific contagion, is universally admitted, and the distinction has been practically adopted in the institution of Houses of Recovery for the reception and extermination of *typhoid* fevers in various districts. But in pointing out the distinctions, Dr Adams has omitted to notice the points of resemblance in the laws of the local and specific contagions, and has even represented the latter as less numerous and decided, than we have reason to believe them to be. The preceding statement is meant to imply, that the infectious atmosphere is limited in its deleterious influence to a small space, or to the air of an apartment; but that the contagious atmosphere is one of unlimited operation, confined to no boundary in this respect, but only arrested by the insusceptibility of the constitutions of men to receive the diseases more than once; nay, farther, that ventilation is most favourable to its operation. Now this we conceive to be an incorrect statement of the facts: we have every reason to believe, from the experiments made and collected by Dr Haygarth [*], both with respect to the small-pox and to scarlatina, that their contagious influence, in a well ventilated apartment or in the open air, is limited to a few yards round the source of the poison; and hence that seclusion of the patient, first seized with scarlatina, in a large school, effectually preserved the rest of the pupils [†]. Dr Adams admits that *fomites*, or substances which convey the "*artificial atmosphere*" that generates typhus, "approach near to the contagions." (p. 19.) In truth there is the most complete analogy between this "atmosphere," and the contagions, when thus deposited in clothing or other substances; their "laws" are in this respect the same. Why, then, are we to consider the one as a *vitiated atmosphere*, and the other as a *morbid poison?* And what is a vitiated atmosphere (if we use our terms with any definite meaning) but the common air, holding some *foreign substance* in solution or diffused in it? And what is this foreign substance but a *morbid secretion* from the body, in the one case, as well as in the other?

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[*] See his plan to exterminate casual small-pox, Vol. i.

[†] *See his letter to* Dr Percival.

But, says our author, "we know by the black assizes, and many other instances, that a person infected by this atmosphere does not, unless he remains in a confined atmosphere, induce a similar disease in others, consequently, this fever has not all the properties of a true contagion." Now, that these diseases, the plague, yellow fever, and typhus, are never communicated to a second person, in airy situations, is an assertion which we think our author is not entitled to make; which is contradicted by many accounts of the plague, and by several respectable writers respecting the yellow-fever; and which, though it may be more uniformly true with regard to typhus, in which the morbid exhalations and secretions are less copious and palpable, and less virulent, than in small-pox and measles, yet when by unremitting attention to a patient, even in the most cleanly and airy habitation, an "infectious dose" has been taken, as we think we have occasionally known, the disease has been thus propagated.

Another difference, which is pointed out in the foregoing quotation, is, that a *contagious* disease, "can only be excited by a cause exactly similar to its effect;" whereas, even the yellow fever and the plague "have been *thought by some* to be excited by exhalations from the earth at particular seasons." The last part of the argument might be sufficiently answered, by stating that it has been *thought by others*, that these diseases are propagated solely by contagion. "Cur enim potius aliquis Hippocrati credat, quam Herophilo? Cur huic potius quam Asclepiadi?" And to affirm that, unless the cause and effect are exactly similar, the disease cannot be contagious, is at least begging the question. Every contagion had once a beginning independent of a *similar* cause; and if once, why not any indefinite number of times*? It is true, we cannot trace such an independent

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* Of this the most striking and conclusive proof is afforded by the origin and progress of dysentery among sheep, or braxy, as it is called, by our Scots shepherds. It always originates from improper management, such as working among them inconsiderately in sultry weather, or in crowded folds, and, for these reasons, it most commonly breaks out among the ewes in milking time; but when generated, "it is highly contagious, and spreads rapidly from individual to individual, and from flock to flock; "so much so," says Mr Beattie, "that if a flock which is much infected with the braxy, lies between a sound flock and the wind, although at half a mile's distance, the sound flock will catch the infection. For which reason all the neighbouring shepherds are greatly alarmed when the dysentery breaks out, as their flocks often catch the infection, notwithstanding all their efforts to prevent it." See Essay on the Diseases of Sheep, by Dr Duncan, jun. Transactions of the Highland Society, Vol. III.

dependent origin; but it is also true, that, in many cases, we cannot trace individual diseases to the operation of a "similar cause," and only infer its existence from our ignorance of its equivocal generation, (if we may so speak) and from our knowledge of the frequency of its univocal production from the "similar cause." But farther, "influenza is known to depend on a particular *constitution of the atmosphere*." Now, we have always looked upon this as a particular phrase, expressive of our profound ignorance. If it be "known," of course Dr Adams can inform us what this "particular constitution" is. We are perfectly sure that he cannot; and, therefore, that he has here made a loose and unfounded assertion. If a peculiar haziness of the atmosphere was observed in Europe during one general influenza, this disease has occurred at other times without any such accompaniment. This concurrence of phenomena, therefore, must be deemed fortuitous; and the two facts cannot stand in the relation of cause and effect to each other. On the other hand, the essential character of a contagion is preserved in this *atmospheric* disease, influenza; for it is propagated with unvarying similarity among all individuals.

But to conclude this part of the argument, we must return to Dr Hosack, who has stated the *experimentum crucis* in this discussion. "This distinction," he continues, proceeding with the passage that we have before quoted, "proposed by Dr Bayley, is, in my opinion, an approach nearer the truth than any of his predecessors has advanced, but it does not present us with a view of the *whole truth*, upon this subject. The visitor or attendant contracts disease from one of *two sources*, either from the filth of the sick room, or from a *specific something* issuing from the body of the sick, the consequence of the peculiar disease under which he labours. If a person, visiting another ill of the *yellow fever* or plague, derives his disease from the *impure atmosphere* of the apartment, I ask, how it happens, that in all instances he contracts the *same disease* with that of the person whom he visits? Why is his disorder not an *intermittent*, a *remittent*, *jail-fever*, or *dysentery*, which are considered the usual produce of filth? If he derives any thing specific from the sick, his disease is then assuredly not to be considered as occasioned by the *atmosphere*, but depending on the *peculiar condition of the fluids*, or state of the system, induced by the action of a specific poison; in other words, it is to be considered as a *contagious* disease," (loc. cit.)

In addition to this conclusive reasoning, we may remark, that, if the sources of infection were in the "*artificial* atmosphere, (an absurd appellation, by the way) and not in the fluids of the persons labouring under the disease, how could it happen that the *excretions of the patients* are so peculiarly infectious ?—that the effluvia from the *stools* have been known to infect at once, and that the patient's bed and *body-clothes*, which receive his *perspiration*, become the most virulent fomites ?

With one inference, which Dr Adams deduces from his premises, we cannot but entirely coincide; namely, that the amelioration of the condition of the lower orders of the people, and their consequent acquisition of a taste for cleanliness, domestic comfort, and the improvement of their conduct, will be the most effectual method of exterminating typhus fever from our large towns. Indeed the gradual advances in wealth, and the general change of opinion in favour of airy situations and of internal ventilation, which have occurred among all ranks of society, within the last century, have already gone far to banish that pest of crowded cities. But in proposing the means of promoting such improvement among the poor, Dr Adams has, in our opinion, built his suggestions upon a very erroneous view of human nature. This proposal is, to advance the wages of labour.

> —" If we wish to meliorate the condition of the poor," he says, " we must give them a taste for something more than the gratification of sensual appetites. This *can only be done* by enabling them to acquire something more by their industry than is sufficient for their immediate wants. The proper application of this superfluity gradually suggests itself, and one of its *first effects* is to *induce economy* by a just knowledge of the value of money. Habits of order succeed, and attention to all those duties, without which they find it impossible to maintain their rank in the new society into which they are gradually introduced." p. 32.

This appears to us to be beginning the plan of amelioration at the wrong end; and we are fully persuaded of the truth of the objection which Dr Adams combats, that, among the *uneducated* labourers, " to increase the price of labour, is only to encourage idleness; as those who can support themselves by the labour of three days, will drink, or be idle the other four," p. 31. This idleness and the gratification of the sensual appetites," are the *first effects* of a superfluity of wages, among the lower class of labourers, according to the complaints of all manufacturers in our great towns: even in London, some of those labourers of whom Dr Adams's habits of printing may have afforded him some knowledge, viz. the pressmen in printing offices, are, we have been informed, generally idle and drinking during Saturday, Sunday, and *saint* Monday. The fact is, the amelioration of the human character is to be begun by improving the understanding and the heart, and infusing the principles of religion and morality, by a proper *education.* It is on the mind, regulated by education, that a superfluity of money leads to economy and decorum; it is by such education, that the moral taste is to be improved, and the true value of sensual pleasures demonstrated, and not by augmenting the means of gratification in an untrained being, from which the contrary effect must be expected. Dr Adams's picture applies solely to the more indigent part of the *middle classes* of society, in whom the ground-work of rectitude has been laid by early education. On this side the Tweed, indeed, where our parish-schools and the cheapness of instruction in general contribute to diffuse the benefits of education through the whole population, his statement admits of more general application; but, in the manufacturing towns of England, from an increase of wages to a superfluous extent in the present condition of the labourers, an increase of immorality, and with it an increase of poverty, misery, and infectious disease, could alone be apprehended.

Dr Adams then proceeds to discuss the modes commonly proposed for the extermination of the " *contagions*," (p. 58.) from which diseases (he affirms) we have witnessed " a melancholy increase of mortality," while the improvement of our moral character and habits has greatly diminished the effects of some *infections*, epidemics, and exterminated others. This proposition, however, that the " contagious property" of scarlet fever, measles, and small-pox," is diffused further, or retains its influence to a greater distance, in proportion as the atmosphere is more free from other impurities," (p. 59.) appears to us exceedingly paradoxical, to have very little evidence in its favour, and to be in some degree invalidated by the statements which, when speaking of measles and of small-pox, Dr Adams himself has made. He attributes the fatality of the measles in the island of Madeira, where they were epidemic a short time ago, chiefly " to the *accumulation of the sick*," (p. 75.) which opinion " is further confirmed by the mortality being so great *among the inferior orders*, though the contagion has spread through every class," (p. 76.) This observation implies, at least, that in an impure atmosphere the contagions produce a more malignant form of disease, than in one which is more pure; indeed, in speaking of small-pox, he unequivocally states this other seeming paradox; that the improvement of society, " whilst it has rendered the contagions more universal, has lessened their fatality, compared with the numbers who pass through the disease," (p. 78.) These generalizations appear to be made upon very slight grounds. With regard to the prevention of scarlet-fever and measles, Dr Adams proposes no expedient, and conceives that the only security of individuals consists in having passed through those diseases: he suggests a serious reflection to parents, "whether it would not be safer to expose their children to the measles, after a due preparation in a mild season," (Qu. when the season is mild, or when the epidemic happens to be generally mild?) "than let them run the hazard of being seized, when least fit to encounter so uncertain a complaint." This suggestion is, however, much less applicable to scarlet-fever, which, we are satisfied, notwithstanding our author's intimation of the contrary, that great numbers never receive, and which those who escape in their childhood, do not often take in after life.

The small-pox, however, is the only "contagion" which has been attempted to be exterminated, and the author now comes to discuss the propriety and practicability of those attempts, after some desultory and ill-connected remarks on the reception of the practice of inoculation by the public, and on the various notions of Dr Haygarth's correspondents respecting the means by which variolous contagion may be disseminated. There is something so uncommunicable, by means of any abstract, in Dr Adams's reasoning in regard to "the recent plans for exterminating small-pox," which is the subject of his last chapter, that we must give his own words, interspersing a little comment.

> "It is not a little surprising, that in proportion as our means of protection from small-pox are facilitated, our anxiety concerning its existence should increase. It must be allowed, all this is disinterested; but let us be careful how we deceive ourselves. If our forefathers never attempted any thing of the kind, might it not be because they were apprehensive that they or their friends might be made the subjects of the experiments." (p. 90.)

We can only suppose that Dr Adams calculated upon the ignorance and prejudices of his readers, when he penned these arguments: for to the rational mind their absurdity and unfairness must be obvious. If these submit in patience to an evil, from which they know no means of escape; is it not natural to be anxious to flee from it, in proportion as our facilities are augmented? And why are experiments in pathology to be constantly held up as a bugbear to the vulgar? Our forefathers were not in the same situation as ourselves with respect to the means of the attempt.—But the author continues, in a passage to us unintelligible as to its import,

> "If at this time, a considerable part of the community has agitated the question with the best intentions, they should, at least, recollect, that those who are the most interested in it, that is, those who are not yet satisfied with vaccination, are the only opposers of any restrictions on inoculation."

But Dr Adams opposes the restrictions on inoculation, and at the same time asserts, "*My own experience fully confirms all that Dr Jenner promised* in his Inquiry into the Causes and Effects of Cow-pox." Appendix, p. 150. There is obviously a lack of truth in one or other of these statements. Dr A. goes on:

> "Why, it is asked by many, who till now never thought on this subject, may not small-pox be exterminated altogether? Such was the question put to me by a practitioner so much older than myself, that I could not help asking him, why he did not attempt to exterminate measles and scarlet-fever, which were so much more to be dreaded, inasmuch as no improvement in our art has taught us how to lessen their violence, or to secure the constitution from their invasion? His answer was, that he would be glad to exterminate both if he knew how. Does not then the same difficulty remain in the way of small-pox? If it is said the disease is only kept up by inoculation; what then keeps up the other two? What kept up small-pox before inoculation was known? Or, why does it so often occur where we can trace no communication with a person under the disease?"

Now, the old practitioner does not appear to us to be altogether in his dotage, and Dr Adams's reply was no answer to his question. The same difficulty *does not* remain in the way of exterminating small-pox; because, for the two other diseases just mentioned we have no substitute, no means of preventing the perpetual propagation of the virus which excites them; whereas, for the small-pox the vaccine pock furnishes us with such a preventive, and, therefore, if it were universally resorted to, the farther production of the poison would be rendered impossible, and, in process of time, the old fomites might be destroyed. But Dr Adams appears to think that the destruction of the existing contagion is altogether impossible, and he quotes an anonymous writer, who asserts that "the grave itself destroys not the contagious principles of the small-pox." Dr Adams immediately exclaims,

> "Is there then a burying-ground in London which may not at any time revive the disease, supposing the whole of the present generation to be vaccinated? Is there a lodging-house, or an old clothes-shop, or a pawnbroker's, that is less dangerous? But it may be said, that the shutting up of burying-grounds, the purification, or even destruction of lodging-houses, the burning second-hand clothes, and all the articles of a pawnbroker, or any other shop-keeper, would be a trifling sacrifice for so great a benefit; and by restraining inoculation, we at least prevent one source of contagion.
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> "Is there then any one hardy enough," he continues, "to propose that *an experiment* for purposes, however laudable, *should begin on the human subject*" (mark the bugbear again) "instead *of furniture*, burying grounds, and other inanimate matter? First, *remove the* sources of contagion, which, before the introduc-

tion of inoculation, rarely left any person six years free from the disease; and then, before you enforce your restrictions, reflect that you are only *reduced to the state of those countries which had been for ever, or for a long series of years, exempt from this calamity* Such are the nations who had never seen Europeans, or had seen them only after long voyages. Let us see whether the security of such is sufficient to leave the inhabitants of the world's emporium at their ease, whilst they or their friends *remain unsusceptible of small-pox infection?*" (p. 92.)

Not to mention this second pitiful attempt to abuse the understanding of the *popular* reader, by representing those who would restrict inoculation as heedless of human life, and equally ready to *experiment* on "this sensible, warm being," as on beds and bedsteads, or on "the kneaded clod;"—the leading point in this argument is founded in misrepresentation. Can it be said, with truth, that a country, possessing an antidote, a substitute, a preventive for this terrible pestilence, is only reduced to the state of those countries which have had no commerce with Europe?—or that the inhabitants of the world's emporium, when the prejudices, which a few opponents have illiberally excited against vaccination among those uninformed persons whom Dr Adams here addresses, shall be removed, will "remain susceptible of small-pox infection?" When we contemplate the usual progress of all the valuable discoveries in medicine, through a constant ordeal of opposition to a final establishment of their merits, have we not every reason to anticipate this with respect to the ultimate reception of the cow-pox? Besides, can any rational argument be adduced to convince us, that we must delay our restrictions upon the propagation and dissemination of new variolous poison, until all the old fomites are destroyed? Why not combine the two methods of lessening the quantity of contagion? Why not at one and the same time endeavour to destroy that which already exists, and to prevent the production of more? We cannot discover any thing like solidity in these statements; and we do not see, that, because the aborigines of the North American coast have been almost exterminated by small-pox,—the inhabitants of New Spain lost half their numbers by it, when first introduced,—Greenland was almost depopulated,—and the small-pox was constantly prevalent in Petersburgh in less than fifty years after it was built,—(pp. 93—96.) we do not see that any such conclusions as those above stated, can be inferred.

Dr Adams subjoins another observation, for the benefit of the *popular* ear. "No further arguments, I trust, will be necessary to shew that the *sudden interference with the practice of half a century* is not an unimportant consideration." (p. 96.) No one could ever question the *importance* of the subject; and this must be deemed another illiberal insinuation, of trifling with human life and feelings, against those who wish to restrict the inoculation of small-pox. Ignorance and prejudice alone, Dr Adams well knows, would yield any weight to the authority of *time*, in proving the correctness of any medical opinion or practice: and in an age, when the experience of every month is superseding the doctrines and practices of our ancestors, detecting their errors, supplying their defects, and adding new information to the stock which they left,—in such an age, the argument is weak indeed; and it tends to evince our author's acquaintance with those popular arts of writing, against which he deprecated the suspicion of the public in his introduction. This is still farther evinced in the answer, which Dr Adams makes to another statement of the advocates for the restriction of inoculation, the whole of which we shall quote.

> " But, it is said, that by preventing inoculation, we lessen one source of contagion. *It is my misfortune not clearly to comprehend the meaning of this position.* The question is, do we afford any certainty for half an hour? Can we say to one newly arrived in the metropolis: You need not fear the small-pox now, for there is no inoculation permitted but under certain restrictions? Recollect the fate of *Miss Joanna Cumberland*, almost as soon as she arrived in London. Recollect the fate of the *Russian Princess*, in a newly built city. Recollect the fate of *Queen Mary*, consort to William III. married at the age of 15, and probably from that time resident chiefly at the Hague; she escaped the small-pox till her arrival in England. Five years afterwards she was seized with the disease, and died.
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> " In a word, is there the mortal who would live in such perpetual fear? Is there an animal of any description whom you would torture with such perpetual anxiety? Can you assure the youth, full of health, and at an age when strong exercise is commendable, and occasional intemperance with difficulty restrained, than in such a moment he will not be seized with a disease, which, under the most favourable circumstances, often proves fatal? Can you assure the virgin, that her return from *the dance* may not prove the introduction to this dreadful calamity; after her escape from which, perhaps, she would *readily resign her existence?* No, you say, but either of them may be vaccinated. Is this questioned? But does not the inference follow? Such are the penalties if you do not vaccinate." (pp. 98-9)

This is very pathetic. No doubt Dr Adams's fair readers cannot resist this appeal to their compassion, in favour of poor Miss Joanna Cumberland, an unfortunate Russian Princess, and a *young English* Queen; and still less can they withhold their assent *to his* argument, founded in sympathy for their own distress,

tress, when even the merry *dance* would be hazardous to life, or, what he gallantly deems more valuable, to *beauty!* But, independent of this dramatic display of the sufferings of royalty, as a trap for the feelings of his readers, we do not think that the case is fairly stated to their consideration. Dr Adams cannot comprehend how, "by preventing inoculation, we diminish one source of the contagion." Now, if we descend from our aristocratic sympathies, to contemplate the result of inoculation among the poor, we think this proposition must become very clear. It may be sufficient to transcribe from Dr Willan, for whose authority our author professes great respect, one "striking case of the bad effects arising from partial inoculation. A child was inoculated, in April (1796), whose parents kept a shop in a court, consisting of about twenty houses. As the inhabitants repaired every day for necessary articles to the source of infection, the consequence was, that *seventeen persons* were affected with the small-pox in the natural way, within a fortnight after the child's recovery; and *eight of them died* of the disease *." It is obvious, that by perpetual inoculation, such new and fatal sources of the contagion must be constantly produced, and that by restricting this practice these sources would be diminished. Besides, is it to be contended, that because the fomites of small-pox abound in every part of an old town, that, therefore, the contagion may be disseminated with impunity by other means?—that because you have much of it, you cannot make matters worse by propagating more?—and that the existing fomites are not multiplied and entailed, as it were, upon the town, by the constant additions, which inoculation, and the consequent casual propagation of the disease, make to those fomites? It is true, that these fomites existed, before the introduction of inoculation, in sufficient quantities to render the disease epidemic at certain intervals of years. But these intervals were periods of exemption, and were of greater duration than at present, when, in fact, the small-pox may be said to be a perpetual epidemic of the metropolis in which Dr Adams resides.

Moreover, Dr Adams states the question, as if it were relative to the total prohibition of inoculation, on the one hand, and as if vaccination were altogether omitted on the other; that is, as if we were actually in the condition of those countries, which have had no commerce with Europe. Whereas the question, correctly stated, is, whether *some restriction* upon inoculation (by which the diffusion of the contagion might be prevented) would not be beneficial, while great numbers, if not the whole, of the population besides, were rendered insusceptible of the small-pox by vaccination. It is too true that great prejudices have been raised against vaccination, and a comparatively small number will at present resort to it. But we do not see any thing so horrible, as Dr Adams would insinuate, against placing those prejudiced individuals in the dilemma, "such are the penalties if you do not vaccinate," *or submit to the restrictions* imposed on inoculation, which Dr Adams ought to have added. Convinced, as we are, that "vaccination is certainly a most invaluable acquisition," (p. 97.) and that it fulfils "all that Dr Jenner promised," (p. 150.) should we consider it as unjustifiable to interfere with those unfounded prejudices, which are adverse to the general good? Would it not, on the contrary, be incumbent on us, in consistency with the universal law of society, "salus populi suprema lex," at least to throw difficulties in the way of the mischievous practice, which those prejudices suggest? This were not *forcing* the adoption of the salutary measure; it were only proposing an alternative, of no very grievous nature, but which would ultimately, perhaps, conspire with the greater evils, and the "penalties" necessarily connected with it, to impress a favourable opinion of the other expedient, which is mild and safe in itself, and unproductive of injury to others.

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* Reports on the Diseases in London, p. 18.

We would recommend to Dr Adams, that, if he shall hereafter think proper to quote Greek in his title-page, he will apply to some learned friend to correct the *numerous* blunders which his printer may make, being, it must hence be presumed, inadequate to the task himself. Poor Demosthenes is terribly disfigured!

VII.

The Remarkable Trial, at Large, of William Pizzy and Mary Codd, at the assizes holden at Bury St Edmund's, on Thursday, August 11, 1808, *for feloniously administering a certain noxious and destructive substance to Ann Cheney, with intent to produce a Miscarriage; with an Appendix, containing the several Depositions made before the Magistrates, previous to their committment.* Taken in *short-hand* by William Notcutt. Ipswich. 8vo. 1808.

We have had the good fortune to procure a copy of this singular and very rare trial, and we are happy in having thus an opportunity of giving it greater publicity. We shall first state the nature of the indictment against the prisoners, and then the evidence adduced in support it. The indictments contained three counts, the first against both parties as principals, and the other two against one as principal, and the other as accessory, and *vice versa*.

The act on which the indictment was framed, is of the 43d of George III. in which it is enacted,

> " That if any person or persons, from and after the 1st day of July 1803, shall wilfully, maliciously, or unlawfully administer to, or cause to be administed to, or taken by, any of his Majesty'ssubjects, any deadly poison, or other noxious and destructive substance, or thing, with intent such his Majesty's subject or subjects, thereby to murder, or thereby to cause and procure the miscarriage of any woman, then being quick with child; that then, and in every such case, the person or persons so offending, their counsellors, aiders, and abettors, knowing of, and privy to such offence, are declared felons, and shall suffer death without benefit of clergy."—

The two questions which the jury had to decide were, 1*st*, Whether the prisoners, or either of them, did administer any deadly poison, or any noxious substance? and, 2*dly*, Whether it was done with the intention to cause or procure the miscarriage of a quick child.

Before the act under which this indictment was laid, the offence was not, by the law of England, a capital crime; but if the child was alive in the womb, and it could be proved to be so, and that it was killed in the womb, it was murder in the woman who took the med'cines that produced that effect. But as it was very difficult to prove these points, it was thought proper to pass this act, similar in its principles to Lord Ellenborough's act. For it will be observed, that it is not the completion of the crime which brings the punishment, but certain overt acts with intention to perpetrate it; giving medicines with the intention of procuring abortion; firing at, with the intention of killing.

We shall take the history of the facts of this case from the examinations before the justices of peace, as being more connected than the evidence given in the course of the trial, from which it does not differ in any essential particular. The most material evidence is Ann Cheney, the girl upon whom the crime was committed,

> " Who saith, that she is about the age of 27 years; that she has lived as servant with Mr Simon Codd, of Haughley, about 12 years last past; that she is an unmarried woman, and was so in the month of February 1806. That in the said month of February 1806,

1806, she was delivered of a female bastard child, that she was alone when she was delivered, but that she called out for assistance, but no one came for some minutes; the child was born dead; she never saw it move, or heard it make a noise. That soon after she found herself with child, she acknowledged it to her mistress, Codd, and told her who was the father of the child. Her mistress said, if she would take that which she would get for her, she thought she could order it better than letting any body know it. Soon after that, she saw Mr Pizzy of Middlesham, the farrier; she told him what was the matter with her; he then gave her some more medicines, and told her they were to make her miscarry. They had not that effect; that she continued to take medicines from him during her whole remaining time of pregnancy; she sometimes received them from her mistress, and sometimes from Pizzy; that her mistress knew what they were for, because she (her mistress) had told her what they were for; that the medicines did not answer the intended purpose; that about a week, or ten days before she was delivered, Mr Pizzy came, and upon her informing him that his medicines had not answered the purpose, he said she must go up stairs with him, which she did; they were alone; he laid her on the floor, on a great coat, upon her back; she put the coat over her head, so that she could not see; she then felt him put some instrument up into her body, which was very cold, like iron; but she did not see it; that, in consequence, she lost some blood, not very much nor very little—suppose about half a pint; did not feel much pain. Pizzy told her it was for the purpose of making her miscarry. Her mistress was at home, and knew for what purpose they went up stairs, but was not present. Pizzy came again the day before she was brought to bed. Examinant told him she had not miscarried; he then said he must try something further; her mistress was present, and heard this. Pizzy and examinant went up stairs again, but her mistress was not present. Pizzy laid her down, as he did before, on her back, and passed his hand three times up into her body half way of his arm, which was naked, which gave her a great deal of pain; and this examinant felt herself very wet, and never felt the child move afterwards. Examinant thinks she had not gone her time by six or seven weeks. She felt the child move after she was so first treated by Pizzy, and till within a day or two before the second time. She thinks she did not go her full time, from the treatment she received from Pizzy." p. 40. 41.

This evidence was, in many particulars, corroborated by Mrs Codd, one of the prisoners, but who, by being herself indicted, was not examined on the trial. She deponed, however, before the justices,

" That twice, in the course of Cheney's pregnancy, Pizzy was up stairs with her alone; the first time not a long time before she was delivered, about three weeks; as soon as Pizzy went down stairs, Cheney called her up-stairs; found her laying on the floor, on a great coat, not upon the bed (there was a bed in the room), partly undressed, the floor much discoloured with blood; did not appear to be in much pain; had reason to believe the blood came from the private parts, for that it lasted till the next day. Cheney was as well as usual before Mr Pizzy came. Pizzy was up-stairs more than half an hour, Upon inquiry what Pizzy had been doing to her, Cheney told her he had been using an instrument, that he had introduced it into her private parts, for the purpose of destroying the child. The second time Pizzy went up-stairs was about three weeks after; they, Pizzy and Cheney, were up stairs when this examinant returned home from a walk. This examinant, hearing a noise, went up stairs; Pizzy came off the chamber with his coat off; his left hand was closed, as if he had something in it; thinks his shirt sleeve was turned up; he had washed his hand, and the water was bloody; he bid this examinant not to frighten herself, he had not done the girl any harm. Examinant went up to Cheney; she was laid on the bed, her shift and petticoat were very wet, more with water than any thing else; there was some discolouration; the same appearance upon the floor, as if she had been laid on the floor; she said she was not in much pain; she has since told this examinant that he passed his hand three times up into her body, for the purpose of bringing the child into the world before its time. When this examinant left her house, Cheney was as well as usual; she met Pizzy as he went, and it could not be more than a quarter of an hour before she got home. Cheney never was well enough to come down till after she was delivered. She came down stairs on the Saturday after she was delivered, which happened on the Wednesday."

During the trial the counsel for the prisoners objected to receiving all that part of the evidence which related to Pizzy's manual operations upon Ann Cheney, as not relevant to the administration of the medicines, which alone constituted the capital crime. But his objection was overruled by the court, and the evidence was admitted for the purpose of proving the intention with which the medicines were administered.

After the evidence was concluded, " the jury retired for about twenty minutes, and *acquitted* both prisoners, expressing themselves not fully satisfied with the sufficiency of the evidence to convict."

The perusal of these facts cannot but excite considerable interest, and afford much room for reflection. We do not mean to question in the least the conduct of the jury in returning the verdict by which the prisoners were saved. If they had any doubts respecting their guilt, they acted humanely and correctly in leaning to the side of mercy. They did not, however, find the prisoner *not guilty*, they merely *acquitted* them, being not satisfied with the sufficiency of the evidence. These doubts most probably arose from its resting chiefly upon the testimony of

Ann Cheney, who, if her story was true, was equally guilty of the crime with the prisoners, though she might plead more powerful motives in extenuation than those by which they would be actuated. The jury did not hear the evidence of Mrs Codd, as, although at first it was intended to summon her as a witness, she was afterwards prosecuted as a party. In this we cannot help thinking the counsel for the prosecution acted injudiciously, as by leaving the proof to rest solely upon the evidence of Ann Cheney, he frustrated his object, that of deterring, by a public example, the perpetration of a crime which we have reason to think is but too often committed with impunity.

The only physiological question which occurred during the course of this trial, and perhaps the only one which properly comes under our consideration, was in regard to the time at which a child quickens. A medical witness examined deponed, that it took place in about 18 weeks, sometimes at 14, and sometimes not till 20 weeks, but mostly about 18; that he never knew it so late as 25 weeks, though he could not say that it sometimes may not happen until the 21st or 22d. In the present case there could be no doubt about the quickness of the child, as she wanted only six or seven weeks of her time; and, if one of the witnesses was correct in her evidence, it even cried after birth. Upon the subject of quickening we may observe, that although recognized by popular belief, and even by the laws of the land, as something definite, it is in fact not so. The growth and developement of the child is gradual and uniformly progressive. During no period of gestation does any sudden revolution or change take place; and what is called quickening, is merely the motions of the child becoming sensible to the mother.

The quickening of the child was supposed to depend upon its becoming animated, and accordingly, the laws of most countries punish more severely the procured abortion of a quick or animated fœtus. But the futility of this distinction might have been inferred from the great diversity of opinion, regarding the supposed time of animation of the fœtus. One makes it take place in three, and another in seven days after conception. One makes the animation of the male take place in 30, and of the female in 40 days. Another, the male in 40, and the female not till 80; while others contend, that both sexes are animated in 60 days.

A more rational ground for the juridical distinction between a fœtus which is quick, and one which is not, may be found in the difficulty, or indeed the impossibility, in most cases, of proving that abortion has taken place at all, and that it was procured. It may have been intended to confine the description of the crime within a period which admitted of proof.

It is not our province to inquire into the degree of criminality which ought to be attached to the procuring of abortion, but we cannot avoid remarking the apparent inconsistency of the law of England, in having no statute to punish its actual perpetration by the only certain means of effecting it, whilst it punishes by death, without benefit of clergy, the attempting it by means which are very seldom effectual. Thus Pizzy was tried for attempting to cause Ann Cheney to abort, by giving her medicines, which had no effect, and his having actually perpetrated the crime by mechanical violence, was only brought forward as proving the intention with which the medicines were given.

The law of Scotland upon this subject is different. Mr Hume says, that all procuring of abortion, or destruction of future birth, whether quick or not, is excluded from the idea of murder, because though it be quick, still it is only *pars viscerum matris* and not a separate being of which it can with certainty be said, whether it would have become a quick birth or not. In all the instances, in which it is noticed in the record of conviction, another and a capital crime concurred with the destruction of the child, and it cannot be known from the short and general record, that the latter was formed relevant as a murder by itself*. Since Mr Hume wrote, however, the subject has been formally discussed and decided in the High Court of Justiciary. A surgeon and midwife were indicted for the violent procuring of abortion, were convicted and sent to Botany Bay for fourteen years. In this case the Supreme Court acted by virtue of that power which they possess competently to punish (with the exception of life or limb), every act which is obviously of a criminal nature, though it may never, in time past, have been the subject of prosecution.

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* Commentaries on the Criminal Law of Scotland, Vol. I. p. 274.

PART

PART III.

MEDICAL INTELLIGENCE.

Report of Diseases treated at the PUBLIC DISPENSARY, *(near Carey-Street,) London, from Nov. 30th 1809, to Feb. 28th 1810.*

Acute Diseases.

	No. of Cases.		No. of Cases.
Synochus	6	Peritonitis	2
Febris infantum	4	Dysenteria	16
Apoplexia	1	Variola	1
Hydrocephalus acutus	2	Rubeola	1
Parotis	1	Scarlatina anginosa	4
Cynanche tonsillaris	1	Herpes zoster	1
Pleuritis	2	Urticaria febrilis	1
Peripneumonia	11	Erysipelas	5
———— notha	10	Rheumatismus acutus	6
Catarrhus	122	Arthritis rheumatica	7
Pertussis	4	Abortus	1
Enteritis	2		

Chronic Diseases.

	No. of Cases.		No. of Cases.
Cephalæa	15	Cynanche chronica	4
Vertigo apoplectica	3	Phthisis pulmonalis	15
Hemicrania intermittens	3	Hæmoptysis	6
Asthenia	11	Catarrhus chronicus	81
Dyspepsia	24	Asthma	5
Gastrodynia	6	Pleurodyne	4
Pyrosis	2	Lumbago et sciatica	8
Icterus	1	Rheumatismus chronicus	25
Enterodynia	6	Chlorosis	1
Colica	2	Amenorrhœa	3
Diarrhœa	14	Dysmenorrhœa	2
Constipatio	2	Menorrhagia	10
Tenesmus	1	Leucorrhœa	6
Hæmorrhagia intestin.	1	Hysteralgia	3
Tænia	2	Dysuria	3
Ascarides	1	Hæmaturia	2
Marasmus	7	Enuresis	2
Tympanites	1	Diabetes	1
Hæmorrhois	3	Nephralgia	5

CHRONIC DISEASES *continued.*

	No. of Cases.		No. of Cases.
Hysteria	5	Scrofula	2
Epilepsia	3	Scabies	4
Hemiplegia	5	Erythema	2
Paralysis manus	3	Crusta lactea	1
Paraplegia	2	Impetigo	1
Hypochondriasis	1	Psoriasis	1
Melancholia	1	Prurigo	3
Hydrops	6	Aphthæ	1
Anasarca	5		

During the month of December, the weather was not very variable in point of temperature, the thermometer at noon never being lower than 38°, and commonly above 43°; there were frequent light rains, and much cloudy weather. The year commenced with a mild, but cloudy and damp, atmosphere, which was succeeded by a severe frost, which began on the 15th of January, and continued, without intermission, to the end of the month; generally accompanied with a cloudy atmosphere, and some unusually thick fogs, but without much snow. The first fortnight of February was mild, moist, and cloudy; a smart frost commenced on the night of the 15th, which continued a week, with a less foggy atmosphere than the former, but with a heavy fall of snow on the 18th. Since the cessation of the frost, the temperature has been exceedingly mild, and during the last few days of the month the atmosphere has been likewise clear.

Although it appears, from the preceding catalogue, that the metropolis enjoys at present an almost total freedom from contagious diseases, and such as usually occur as epidemics; yet, during the months of January and February, and particularly since the commencement of the frost in the former month, sickness has been more general among all ranks of people, than at any period since the influenza of 1803, and the applications to the Dispensary have been more numerous than during almost any equal portion of time since the occurence of the epidemic alluded to. Nevertheless, the sickness has been chiefly of the ordinary forms of catarrhal and pulmonary diseases, unaccompanied by the peculiar characteristics of the influenza. Since the 1st of December, the number of patients entered on our books, exclusive of those under the care of the surgeon, amounts to 548; of whom 400 have been admitted since the commencement of the new year. Of these nearly one-half, *i. e.* 256 of the total number, have been affected with pectoral complaints; and of these pectoral complaints, again, 207 have occurred since the beginning of January, and about forty-nine in the open month of December: a circumstance which *points out* the origin of the prevalent sickness, in the obvious condition of the atmosphere, namely, in the severity and vicissitudes of its temperature. The occurrence of frost invariably multiplies the number of pulmonary disorders; but when it is conjoined with thick fogs, it is doubly pernicious, from the greater rapidity with which the atmosphere, thus loaded, abstracts the heat of the body. Hence several of our patients were able to date the origin of their disorders from a particular exposure to such a condition of the air. It may be observed, likewise, that all the cases of phthisis, except two—all the instances of peripneumony, except three,—and the whole of the cases of peripneumonia notha, and of asthma, presented themselves after the first set in.

The catarrhal affections have not only been numerous; they have also been more than uncommonly severe; an unusual number of them having been accompanied with a considerable degree of feverishness, and a disordered state of the functions in general: but they have been fatal chiefly to persons of advanced age, and to those who have been habituated to similar returns in the winter season, for several years back. Very old persons have been carried off by comparatively moderate attacks of catarrh, which seemed to wear out their feeble portion of vitality, merely by the slight interruption to the function of respiration, (it would be deemed slight, at least, at any other period of life) which the phlegm, secreted in the bronchial passages, occasioned; for they quietly sunk into the sleep of death, without any urgent symptom or appearance of distress I have, in more instances than one, seen such persons sitting before the fire, only a few hours before their dissolution; but with a small feeble pulse, an increasing languor, and a ruttling noise in the bronchiæ at each act of respiration. Those who are affected with habitual chronic cough and dyspnœa in the winter, often suffer fatally from the accession of a severe frost; their usual complaint immediately attacks them, and passes on to the peripneumonia notha, on the one hand, in which they are suffocated by the profuse effusion of viscid phlegm into the air-tubes and cells; or, on the other, it puts on the more active form of common peripneumony, which, however, is more manageable by remedies than the former. Both these affections, if they do not speedily terminate, are liable to degenerate into a distressing, and ultimately fatal chronic dyspnœa, from the altered organization of the lungs, which they occasionally produce, followed by hydrothorax, and anasarca of the limbs and face, from the impediment to the pulmonary circulation. Besides these mortal consequences of severe cold, many of the pectoral affections, induced in the younger individuals, lay the foundation for phthisis pulmonalis. On the whole, therefore, a great catalogue of evils is to be traced to the most fatal of all the obvious qualities of the atmosphere, frost, which, in popular language, is usually termed " bracing and wholesome." And it cannot but be remarked, as an extraordinary example of the perverseness of human prejudice, that almost the only means, which persons of moderate constitutional vigour possess of resisting this source of disease, namely, the constant use of warm clothing, is so generally neglected.

Another operation of the cold season has been upon the alimentary canal, so that a proportion of bowel complaints, somewhat above the ordinary average, has lately occurred. These amount to about forty-five in the preceding list, of which dysentery and diarrhœa are the principal. The cases of dysentery, however, have not been more severe than for some time back, and were not so often accompanied by discharges of blood. The various forms of rheumatism have been, as might be expected, very prevalent; but not in an equal proportion with the pectoral complaints: indeed many of the cases, which are enumerated under the heads of rheumatism, diarrhœa, dysentery, dyspepsia, &c. were also complicated with some degree of catarrh.

I may here mention, that in consequence of a communication from Dr Southey, of Durham, to my colleague, Dr Laird, in which it was stated that the *oil of turpentine* had been discovered by Dr Fenwick to have been used, with considerable success, in the expulsion of *tape-worm*, by a mechanic of that city, this substance has been administered in doses of from *half an ounce* to *two ounces*, by several physicians of public charities in London, and it has appeared to be an active antidote to that troublesome animal, in a great majority of instances. In a considerable number of cases its exhibition has been followed, in the course of a few hours, by the discharge of a *dead* tænia, of many yards in length. The oil of turpentine may be swallowed with scarcely more inconvenience than so much gin, and its effects are nearly the same when taken in large doses, viz. some degree of vertigo, or an approach to intoxication. It generally acts as a speedy purgative, and produces no unpleasant effects on the bladder: but, in a very few instances, it has occasioned a distressing sense of heat in the stomach, with considerable sickness; and, in one or two cases, has produced strangury. Even in these few cases, in which it has failed to expel the tænia, it has commonly afforded great relief to the painful feelings which were believed to originate in the presence of the worm.

London, Feb. 28th, 1810. T. B.

ANIMAL CHEMISTRY is a subject so interesting to every medical philosopher, that we shall make no apology for inserting in this place a short abstract of Dr Bostock of Liverpool's latest papers on this subject.

In the Medical and Chirurgical Transactions, he has published a paper on the gelatine of the blood. The paper is divided into two parts, of which the first, and by far the longest, consists of an historical sketch of the discoveries and opinions that have been entertained respecting thedifferent components of the blood. Harvey first observed its separation into the fibrous and serous parts, but the author doubts, whether, as has been supposed, he was acquainted with the effects of heat upon the albumen. Lower, Malpighi, and Borelli, successively added to the stock of information respecting the nature of the parts into which the blood spontaneously separates, Leuenhoeck discovered the red particles, and Guglielmini paid attention to the nature of the salts which it contains. The operations of the chemical philosophers, who attempted to analyze the blood by the application of heat, and the hypothesis of Boerhaave, and his disciples, served rather to retard than to promote the progress of knowledge. The writings of Senac and De Haen are next referred to, the first of whom seems to have introduced the terms coagulable lymph and serosity, while the latter has been thought the discoverer of the gelatine, although Dr Bostock endeavours to show that this opinion is not correct. Fourcroy appears first to have distinctly announced the presence of jelly in the blood, and the discovery was farther prosecuted by Parmentier and Deyeux; since that period no new experiments have been performed upon the subject, but its existence has been received as an acknowledged matter of fact, by all the latest physiologists. Dr Bostock, is, however, disposed to deny the reality of the existence of jelly as a constituent of the blood, both from the effect of the different tests which he has suggested for the analysis of animal fluids, and also from the consideration of the physical properties of jelly. He admits, that when the serum is coagulated by heat, a quantity of uncoagulated matter may be separated from it, which was supposed to contain the jelly, but he conceives it to be a compound of the salts of the blood and mucus; at the same time, it is confessed, that the mucus is characterized more by negative than by positive properties.

Dr Bostock has also published a paper in Nicholson's Journal on the combination of jelly and tannin, the principal object of which is to shew, that these substances do not unite in one *constant proportion,* but that the proportions of the compound differ according to the respective quantities of the ingredients that are added together. From this circumstance he concludes, that although jelly may be employed as a test of the presence of tan in any vegetable infusion; yet that we cannot estimate the proportion of astringent matter which it contains, from the weight of the compound which it forms with the jelly. On this account, he thinks, we cannot rely upon the analyses that have been made by Mr Davy and others, of astringent vegetable substances, as they all proceed upon the principle, that jelly and tan unite in one definite proportion only, and in which the quantity of tan is estimated from the weight of the compound *. The author gives an account of a number of unsuccessful attempts which he made to obtain a standard solution of tannin, which might serve as an uniform term of comparison to which the rest should be referred. For this purpose he employed different preparations of galls, the artificial tan of Mr Hatchett, catechu, and the extract of rhatany. A solution of rhatany seemed to approach the most nearly to what he was in search of, although it was not entirely unobjectionable. He also examined different gelatinous solutions, for the purpose of obtaining a standard preparation of jelly. He informs us that isinglass very seldom consists of pure jelly, and that glue is still more impure. Dr Bostock concludes by remarking, that there is reason to doubt whether any of the animal fluids contain jelly; for besides his experiments on the blood, he informs us, that he has not been able to detect it in a variety of serous fluids where it had been previously thought to exist.

This paper has been followed by one on astringents in general, in which several substances were examined that contain tannin in the largest proportion; and some general conclusions are drawn respecting its properties and its natural combinations. With respect to the gall-nuts, it is stated that they differ so much from each other in their chemical properties, that it is almost impossible

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* This accords with the observation of Dr Duncan, jun. inserted in the fourth edition of his Dispensatory; and as that work is more in the hands of students than of advanced chemists, it may not be superfluous to quote them. "Mr Davy has concluded that tannin and gelatine unite in fixed proportions, viz. 46 of tannin with 54 gelatine; were this correct, it would very much facilitate the analysis of astringents, but unfortunately my experiments do not confirm it. A twelve hours infusion of 500 grains of nut-galls in twelve ounces of water, precipitated successively with equal quantities of solution of gelatine, containing each twenty-four grains, gave precipitates weighing 98, 64, 48, and 36 grains; hence, if we suppose the whole gelatine used to be contained in each precipitate, *these consisted of 24* grains of gelatine, and 74, 40, 24, and 12 grains of tannin, *so that, from the* weight of the precipitate alone we cannot estimate the tannin."

impossible to form two infusions of them which shall be precisely similar. The insoluble part of galls differ much in different specimens; but the average is about 1-10th of the whole. The author gives an account of some observations which he has made upon the green colour that is occasionally exhibited by the infusion of galls; and then enters into a detailed account of the circumstances which attend the moulding of the infusions. The effect of subjecting the same portion of galls to a number of successive infusion is then described; the tannin disappears long before the gallic acid; and what has been called the extract, is exhausted rather sooner than the tannin. It is only the earlier infusions which are capable of moulding. We have then an account of the effect produced by the different tests for astringent infusions, jelly, different metallic salts, alkalies, acids, and earthy salts; it appears that jelly is much the most delicate test for tannin. Dr Bostock entertains great doubts respecting the separate existence of what is called the extractive principle; he argues the question at some length; and he endeavours to show, that most of the supposed effects of the extract belong to the tannin; that the tests for extract are of an equivocal nature; that the supposed difference between the solubility of tan and extract is not confirmed; and that a part of the contents of the infusion becoming insoluble by heat and exposure to the atmosphere, is no decisive proof of the presence of extract. Dr Bostock likewise attempts to show that galls contain nothing to which the appellation of mucus can be properly applied. We have next a number of experiments on catechu, and the extract of rhatany, in which their properties are compared with those of the gall nut; and, lastly, the author considers the question, whether tannin be in all cases identical in its properties, or whether its apparent differences do not depend upon its not being always procured in a state of purity; Dr Bostock adopts the former opinion.

REPORT of the Surgeons of the Vaccine Institution of Edinburgh for 1809.

'The surgeons of the vaccine institution have much satisfaction in reporting to the Managers, that inoculation for the cow-pox goes on with uninterrupted success.

During the last year 671 have been vaccinated, making in all 10,625, since the commencement of the practice at this institution.—The surgeons think it necessary to observe, that some diminution has taken place in the number inoculated during the year 1809, which is to be attributed partly to the new *method of enforcing* attendance, viz. by exacting a deposit, and partly to the *natural small-pox* having been less frequent in this city than formerly; which last circumstance, they are sorry to observe, never fails to render the lower orders less attentive in bringing forward their children to be vaccinated. They have, however, much satisfaction in stating, that, although there has been a diminution in the number inoculated, there has been a great increase in the number of those who have been dismissed with certificates of regular attendance.

The surgeons have been in the practice of frequently visiting the patients who were inoculated during the early periods of the institution. This they have repeated during the last year on a much more extensive scale than formerly; and they have much pleasure in stating, that the result has been uniformly satisfactory. They have met with a great number of children, who were vaccinated six, seven, eight, and nine years ago, who have been lately, and on many former occasions, freely exposed to the contagion of natural small-pox with impunity; they have also inoculated with small-pox, a great number of children, who were vaccinated eight, nine, and ten years ago, and uniformly found that they resisted the disease.

Upon the whole, the surgeons state, *with the greatest confidence*, that the result of *ten years experience enables them to declare their decided opinion to be, that vaccination, properly conducted, is a perfect and a permanent security against the small-pox.*—Wm. Farquharson; J. Bryce; A. Gillespie; J. Abercrombie.

Foundling Hospital, Dublin, 4th Jan. 1810.

AS some persons have lately attempted to prejudice the minds of the public by representing vaccine inoculation as a doubtful security against small-pox, limiting its influence to a certain period, and wishing us to believe, that its preventive powers diminish in proportion to the distance of time from inoculation; —I have, therefore, at the request of the right honourable and honourable the governors of the foundling hospital, instituted such experiments as enable me (a second time) to congratulate the public on their successful event.

From my situation, as surgeon to the Foundling Hospital, I have had it fully in my power, to select such cases as had been faithfully recorded by me to have undergone vaccination, at the earliest period of cow-pox inoculation in this city, and such have been approved of by those gentlemen who have honoured me with their presence, to witness and subscribe their names to the progress and event of the following experiment on nineteen children chosen for the purpose, who were divided into two classes. The first nine, comprehending those who in a state of infancy, were vaccinated by me, between the 30th December 1800, and 3d July 1801, now more than eight years. These were again inoculated with small-pox infection, by George Stewart, Esq. Surgeon-General, on the 24th July 1804, (and witnessed by several gentlemen of the first respectability in their profession), in like manner, to disprove the assertions of Mr Goldson, as may be seen in the Twelfth Volume of Medical and Physical Journal, and with the most complete success—all having resisted the small-pox, although exposed to it in every way possible.—These nine children, with ten others, who were also vaccinated by me in a state of infancy, from 15th July 1801, to 30th August 1802, upwards of seven years, were again submitted to small-pox inoculation, on Friday 22d December last. The infection taken from a child of Mr Stafford's, No. 7, Hanbury-Lane, in confluent small-pox, and the matter inserted in two places in the arm of each child, in a fluid state, and in the greatest quantity.—In every instance, the punctures in the arm of each child, from the third day, inflamed, and continued until the 7th, when the inflammation gradually subsided, as certified by Mr Stewart, and marked in a table, which, in another publication, will be more fully expressed;—which circumstance has proved the activity of the small-pox matter inserted, and which, must have affected the constitution, was it in the least susceptible of the disease.—*Fourteen days have now elapsed; the inflammation of the punctures is entirely gone,* and never was attended with the slightest fever, sickness, or *eruption.*

In corroboration of the above facts, conducted with every degree of accuracy, and which cannot admit of the smallest doubt, on the minds of those gentlemen who have witnessed them, and hereunto subscribed their names; I can safely assert, that I have submitted upwards of five hundred infants and children, vaccinated by me at this institution, and at the Dispensary for Infant Poor and Cow-pox Inoculation, as established in the year 1800, to a like experiment, and with the same result in every instance.

J. CREIGHTON.

Dublin, Merrion-Square, West, January 4. 1810.

Cow-Pock Institution, under the patronage of his Grace the Lord Lieutenant, No. 55, Sackville Street.

An abstract from the register of inoculations and distribution of matter.

	Patients Inoculated.	Packets issued to	
		Practitioners.	Army Surgeons.
1804	578	776	236
1805	1032	1124	178
1806	1356	1340	220
1807	2156	1790	320
1808	3002	2285	333
1809	3941	2540	244
TOTAL	12,065	9855	1537

The Directors of the Institution have great pleasure in observing the progressive increase of *vaccine inoculation*, and the influence of experience in satisfying the public of its efficacy. Most of the above 12,065 patients being confined to a city, where small-pox has been in general prevalent, must have been exposed in every possible way to its infection, by living in the same house, or frequently sleeping in the same bed with the infected. The anxiety of parents too, has often led them intentionally to expose their children to small-pox infection. As far, however, as the immediate observation of the Institution extends, cow-pock has been found to resist all such trials, with three exceptions only.

It now appears by increasing experience, that, in *a very few instances*, the vaccine infection will form fairly on the arm, and go through its regular stages, without being absorbed into the blood. The same thing has repeatedly happened in inoculating for the small-pox, where no eruptive fever or eruption succeeded the inoculation. In the three cases of small-pox which have succeeded vaccination, the disease has been mild and of short duration.

The efficacy of cow-pox, as far as Dublin is concerned, does not rest upon the proofs adduced in its favour by this Institution, for it has been extensively practised during the last five or six years. There are grounds for believing that the number vaccinated throughout the city, including the above 12,065, does not fall short of 35,000. The cases of small-pox following cow-pox which have been reported, upon any reasonable authority, to the Institution, do not exceed six. No one who is acquainted with the careless and inattentive manner in which many practitioners have hitherto conducted vaccination, can be surprised to hear of cases of failure. The neglect of parents also to have their children examined at the regular periods after inoculation, tends to bring the practice into disrepute. To obviate this inconvenience it has been the practice for some time at this Institution, to oblige parents to deposit a small sum, to be returned after the child has gone through the disease, provided they have attended agreeably to instructions, otherwise the sum is forfeited. This regulation has had the desired effect.

It was reported at an early period of the practice, that vaccination afforded only a temporary security, which was at first limited to three years. Numerous experiments, tried in different quarters, satisfactorily proved the falsehood of this assertion. A similar opinion has been lately revived, but the period of security extended to five or six years. Neither analogy nor experience justifies such an idea, and the history of casual cow-pox, fully refutes the allegation, as numerous cases are on record of persons, after having casual cow-pox, resisting during a long life the small-pox, under every circumstance of exposure, inoculation, &c. Besides, had the preventive powers of cow-pox not been permanent, it is but reasonable to suppose that many of the above 12,065 must, under the existing circumstances of exposure have taken the small-pox. Above twenty children who were vaccinated five or six years ago, have lately, by order of the Directors, been submitted to variolous inoculation, but without the effect of producing small-pox. Similar experiments have been instituted, under the direction of other practitioners, with the like result. Nineteen children who had the cow-pox eight and nine years ago, have been lately inoculated with small-pox matter, at the Foundling Hospital, under the inspection of Mr Stewart, Surgeon-General, and Mr Creighton, Surgeon of the Hospital, but with no other effect than local inflammation. In a letter just received from Mr Bryce, of Edinburgh he observes, "I have lately finished an experiment of inoculating about twenty children with the small-pox, who were vaccinated from eight years, to five months. The result is most satisfactory, and shews clearly that a pustule with surrounding inflammation is as readily produced five months after vaccination, as at the end of eight years, and that the security is as complete at the latter period as the former."

The following extract from the report of the Small-Pox Hospital, London, should be recorded:—"Eleven thousand eight hundred patients, and upwards, have been vaccinated, of which number *twenty-five hundred* were afterwards *proved* to be secured from the natural small-pox, by receiving a further inoculation with small-pox matter, which took *no effect*. A number *amply sufficient to satisfy the public mind*, of the *security* and *success* of the new practice of vaccination." *December*, 1802. So great a number submitted to the test of variolous inoculation, and exposed in a hospital full of small-pox infection, *without effect*, should of itself convince every reasonable mind of the efficacy of vaccination.—*Vid. Mr Charles Murray's Answer to Mr Highmore*, p. 37.

A report having been lately circulated, that Dr *Jenner* himself, was beginning to entertain some doubt of the efficacy of his discovery, the Directors thought it expedient to direct their Secretary to write to him, and to lay his answer upon the subject, before the public.

"Dear Sir,—Your obliging letter of the 3d inst. enclosing the annual report of the cow-pox institution in Dublin, has just reached me. The former letter you allude to, has not yet been delivered. It is with the greatest pleasure I perceive the rapid increase of vaccination in your metropolis, and the uninterrupted success that has attended the practice, at once a proof of the zeal, industry, and attention of the medical officers, for which I beg leave to make my most grateful acknowledgements.

"And now, Sir, a few remarks on the very extraordinary communication you have made to me respecting Lady C———. It has been one of the usual devices of the enemies of vaccination, almost from the time of my first making it known, to represent me as having lost my confidence in its prophylactic powers, or at least, that I was wavering on the subject. Can I, who, with the aid of my nephews, have vaccinated a number of persons, little short of 30,000, without one single instance of accident or failure, that ever reached my ears, for a moment entertain such an absurd idea? Or could I *have ever thought* of inoculating for the small-pox, while I hold *that practice in* abhorrence, and condemn it both publicly and privately? *Believe me, the* whole story you relate to me, is an entire fiction, without the faintest shadow of foundation. Never, from the commencement of my experiments, to the present hour, have I used a particle of variolous matter, except for the purpose of putting some of those to a test, on whom I made my first trials. For some years past, I have relied wholly on the vaccine lymph, for testing those on whom any material irregularity appeared in the progress of the pustule. Believe me, &c. EDWARD JENNER.

"*Berkely, February* 19, 1809."

While the Directors, with such weight of evidence in its favour, feel themselves warranted in continuing to recommend vaccination as a preventive of small-pox; they cannot but regret, that in a few cases, it has been difficult to determine whether a patient has had the disease *constitutionally*, or *locally*. They, however, confidently hope, that by pursuing Mr Bryce's test, and by increased attention to the progress of the disease, practitioners will be enabled to surmount the only objection to a practice which tends to preserve more than 30,000 lives annually, in the British Isles.

Mr Bryce proposes, that a second inoculation be performed about the sixth day after the first, the vesicle produced by this second inoculation, is accelerated in its progress, so as to arrive at maturity, and again fade, at nearly the same time as the affection arising from the first inoculation. Mr B. considers the acceleration of the second inoculation to be the effect of the constitutional affection produced by the first, and, therefore, if it shall be found, that no such acceleration takes place, but that the second inoculation proceeds by a slow progress through all the stages, it is to be concluded, that no constitutional action has taken place from the first insertion of the virus; and when this is the case, the second inoculation must be regarded as a primary affection, and a third puncture made according to the plan laid down for conducting the second inoculation, and thus, (he says) we may go on until the proper test be obtained, or until we be satisfied, that the constitution completely resists the action of cow-pock.

Although small-pox is by no means exterminated from Dublin, among the poor, yet the general substitution of vaccine for the variolous inoculation, has considerably diminished the number of patients, brought to the hospitals and dispensaries for advice. In the upper ranks of society, death from small-pox is unheard of, and the most extensive practitioners acknowledge, that a case of small-pox in private practice, is a very rare occurrence. And although the re-introduction of small-pox into society, would add greatly to the emoluments both of Physic and Surgery, there is no liberal man in either profession, who would not sincerely deplore such a calamity.

Signed by order, S. B. LABBATT, Secretary.

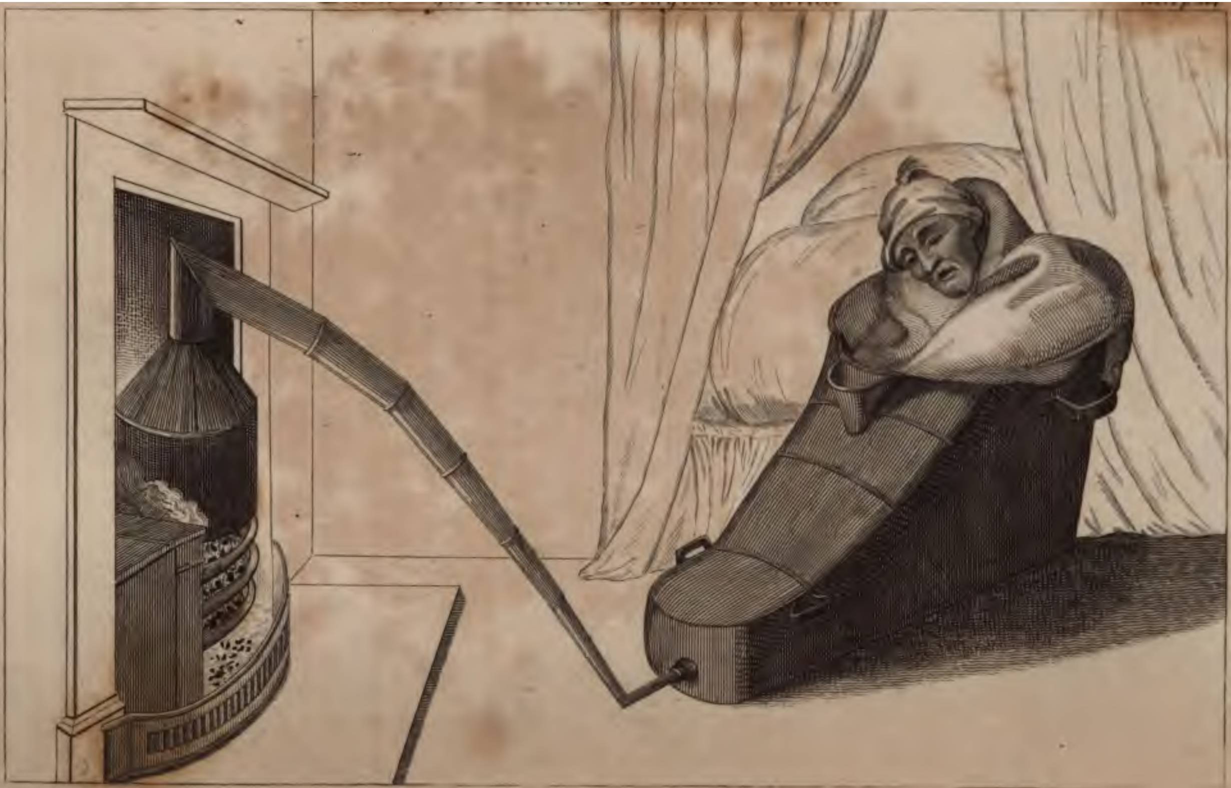
January 10, 1810.

In Dr Shearman's paper, at page 78, line 19, is a passage erroneously pointed, which makes it complete nonsense. It should be, " which excites the larger arteries to stronger action, while yet the resistance in the extreme vessels in the uterus is not overcome by it. Increased action, long continued," &c.

The Reviews of Dr Buxton on the use of regulated temperature, Dr Chisholm's letter to Dr Haygarth, and Dr Hamilton's letters on gout, are necessarily postponed to next Number.

⁂ Communications may be addressed to the Editors, to the care of Messrs *Constable & Co. Edinburgh*; Messrs Constable, Hunter, Park, and *Hunter, 10, Ludgate Street, London*; and Messrs Gilbert & Hodges, *Dublin.*

No. XXIII. will be published on the 1st July 1810.



THE
EDINBURGH
MEDICAL AND SURGICAL JOURNAL.

1. JULY 1810.

PART I.

ORIGINAL COMMUNICATIONS.

I.

Medical Report for Nottingham. By JAMES CLARKE, M. D. Physician to the General Hospital, and to the Vaccine Institution.

> "Physicians, like sectaries in religion, have each their peculiar theories and dogmas; and the cry of heresy has generally as little to do with truth, good sense, or justice, when it comes from the one profession, as from the other. In each, honest sensible men find principles enough for their own guidance; while the consciousness of a facility of error in speculation, and less important points, makes them tolerant and compassionate to those who differ from them."—Dr SMITH's Tour on the Continent.

LET the liberality, which this sentence breathes, be instilled into the minds of all students in medicine, that, while they gradually obtain a knowledge of their profession, they may justly estimate the value of their acquirements; and, as it is not possible that they should be ignorant of the changes that continually occur in the treatment of diseases, they will, in consequence, prudently examine any new suggestions, with that candour and caution which is to be expected from men of liberal education.

Within the last four years, a revolution may be said to have taken place in medicine, in proof of which, the treatment of small-pox, by exposing the body to the cold air; of continued fever by the cold affusion; of diabetes, and some varieties of dropsy, by bleeding, are marked instances, in direct opposition to the practice formerly inculcated. The treatment of typhus, also, lately taught in the schools of medicine, is now seldom pursued, for port wine is rarely prescribed, and bark is thought, by experienced practitioners, very detrimental in the early stage of the fever, and is now seldom administered, before a moisture appears on the skin, which is commonly the period when the fever remits. Scarlet-fever also presents a strong feature of this change in medical practice, if not in theory, as the cold affusion, and the repeated exhibition of purgatives in this disease, fully testify; a mode of treatment that was at first very generally reprobated, and has not indeed yet gained the public confidence, notwithstanding the decided advantage proved to have arisen from it *, and which every day's experience appears to confirm.

The great mortality that has attended the fever of Walcheren; the difficulty that has arisen in the treatment of the disease; the variety of plans that have been pursued, or remedies that have been prescribed, without any satisfactory result,—ought to humble our pretensions, and induce us to receive the observations of others on any new mode of practice with liberal attention: for intolerance can effect nothing; it will not convince mankind, nor render us one bit the wiser. It certainly will be of great national advantage, if the medical men who attended our army in Zealand, and since their return to this country, present the public with information on the following very interesting points of inquiry.

1. Topographical accounts of the different situations which the troops occupied, and in what manner they were accommodated.

2. History of the disease at each of these stations, arranged as much as possible upon a similar plan, to afford a facility of comparison.

3. The causes producing the disease, whether referable to one, or many combined? Whether the body was predisposed by previous hardships in Spain, or by any irregularity of diet, or want of proper clothing on the expedition?

4. Did one situation induce the intermittent, and another the remittent? or were they considered as degrees of the same disease, the former passing into the latter when most violent, and becoming

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* See Hamilton on Purgatives.

coming again intermittent at the close of the disease? or did this depend on constitutional disposition?

5. What methods of treatment were pursued at each station? the result attending each, and the general result of the whole.

4. What prophylactic measures were adopted?

These, and other questions of a similar nature, are very important, and call for the attention of those who are competent to answer them. It will be necessary to point out in what this disease differs from the common fen ague of this country, which every old woman boasts of having cured, and which medical men have generally found to be easily removed by the bark or arsenic[*]. The cases from Walcheren, that have fallen under the care of the practitioners in this neighbourhood, have been very obstinate, and particularly liable to relapse; two or three, it is said, have died soon after they came on furlough from their regiments. They have all complained of pain in the spleen, which generally was enlarged, and somewhat indurated. A fine young man is at present in the hospital, under the care of the reporter, with a relapse of the remittent fever; the spleen and liver are both enlarged, and painful on pressure; his stomach has always rejected the bark, which has generally happened in all the cases where there has been any perceptible organic disease; he has hitherto found most relief from blisters, small doses of calomel, with antimonial powder night and morning, and an anodyne draught given an hour before the expected paroxysm, or rather exacerbation, which has been daily between the hours of four and six in the afternoon. It is worthy of remark, that the intermittents from the Lincolnshire fens have been not only unusually frequent, but particularly obstinate, and generally attended with a bilious affection; the countenance being strongly jaundiced, and the bowels irregular. Indeed, some few instances of ague, originating in this town, have fallen under medical observation. From these facts, it appears rational to conclude, that there has existed a general tendency to the disease; whether influenced by the weather, or any other perceptible cause, is a matter worthy of inquiry.

In the treatment recommended by Dr Watt, for the cure of diabetes[†], we find a plan laid down, in its principles apparently directly opposite to that of Dr Rollo. Both methods are supported by cases in which the practice proved successful. We must therefore conclude with Dr Watt, " that in medicine there are different ways of accomplishing the same end; and it may have a tendency to silence the clamours of theorists against particular modes of practice, when they perceive the same ends accomplished by means seemingly so different, and lead them to ascertain the effects, without speculating about the sedative or stimulating qualities of medicines employed." These remarks are sufficiently explanatory of the views that guided the reporter in the treatment of the following case of diabetes mellitus.

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[*] See Edinburgh Medical and Surgical Journal, Vol. iv. p. 2. Vol. v. p. 189.

[†] *Cases in Diabetes, &c.* by Robert Watt.

John Oliver Omrad, aged 65, married, watch-maker, applied for advice November 9th, 1808. Complaining of pain in both kidnies, and in the course of the urethra during micturition; passes above one gallon of sweet limpid urine in the twenty-four hours; complete phymosis, with redness at the point of the urethra; skin hide-bound; soles of the feet and palms of the hands cold, and always dry; appetite very great; much thirst, with constant greasy sensation in the mouth; pain and sinking at stomach; turgid gums; white tongue; irregular bowels; pulse 88, soft and moderately full; urine, at times, passed involuntarily; has for some months lost all venereal desire.

Relates that he has had this disease one year, and attributes it to the eating of brambles, when in a violent sweat; and that he has taken much medicine without relief. About nineteen years ago, and four weeks after his marriage, he had a paralytic stroke; after which he never perfectly recovered either his speech or step; but previous to this attack he had been very healthy. About seven years since, he parted with a considerable quantity of gravel, and found much difficulty and pain in passing urine; and during seven days of this illness, his urine was much mixed with a fluid compared to the white of an egg, with streaks of blood; after which he speedily recovered, excepting that he at times passed gravel. He was in the habit of sweating profusely before the diabetic affection appeared. In the summer of 1808, his sweat returned, and his diabetes was in consequence moderated. He has led a sober life, and appears an intelligent man, but very irritable, and easily alarmed; he has gradually lost flesh and strength, during his illness, but continues a sedentary employment, to maintain his wife and children. He has been put on animal diet, but without any success.

Sumat gutt. xx. acid. nitrici ter indie.

Let the diet be entirely fat meat, and the body be clothed in flannel.

December 1st.—He became an out-patient of the hospital on the 22d of last month. He has continued the acid since the last report, gradually augmenting the dose to forty drops, three times a-day; the quantity of urine has varied from seven to ten pints, in the twenty-four hours, and possesses the same sweetness; says that he gains strength; that his appetite is less craving, and the pain in the stomach, after food, is moderated; great thirst; finds an instant desire to pass urine after taking the acid; adheres with great firmness to his diet, which he is to continue, with the nitric acid.

December 15*th*.—The quantity of urine has varied from seven to ten pints, and once it was as low as five pints, in the twenty-four hours, but of the same sweetness and straw colour; he has at times a sweetish taste in his mouth; says he gains strength, his appetite is natural, and that he is free from pain; bowels regular. Continue the same system.

December 29*th*.—Has passed about seven pints of urine in the twenty-four hours; four pints boiled down, yielded about five ounces of a thick liquid; says he feels weaker; the acid disagrees, and is in consequence omitted. The diet continued.

January 7*th*, 1809.—Was admitted an in-patient yesterday. He has passed about seven pints of urine in twenty-four hours, since the last report; four pints being evaporated, left about four ounces of a dark viscid fluid, resembling treacle, of a sweet taste, with a strong saltish impregnation, and urinous smell; he complains of much pain in the loins, which is most troublesome at night; great thirst; appetite nearly natural; belly regular; he is much more weak and emaciated; tongue is covered with a strong white fur; the pulse is small, but rounded, and feels contracted; countenance flushed; urine still at times passes involuntarily, and sometimes even the feces, during the act of micturition. Omit the diet of fat meat, and take the usual diet of the house, but in as small a quantity as possible. To drink a quart of lime-water daily. Six ounces of blood to be taken from the arm.

Let the quantity of the food and the urine be estimated.

January 9*th*.—Blood drawn on the 7th presents a strong buffy coat, and is very much cupped; there is a moderate proportion of serum, with a very dark-coloured coagulum. He has taken a quart of lime-water daily, and thinks it moderates his thirst. Pulse 80, regular, small and feeble; tongue still furred; bowels regular; has not any fever, and thinks he retains his urine with more facility. Continue the lime-water.

January 10*th*.—He is certain that he feels better, and can retain his urine some time. Pulse regular, and less feeble; his appetite is far from being satisfied with the full allowance of the house; he feels much hunger in the night. Six ounces of blood to be taken from the arm, and the lime-water to be continued.

January 11*th*.—Blood drawn yesterday is cupped, and presents much buff in the first vessels; in the second it is but slight. He can now retain his urine for two hours, and has acquired some sensibility in the urethra during micturition; bowels regular; tongue much less furred; pulse about 80, soft, and more full; sleeps well; feet feel warm; he says that he feels lighter, and in all respects better. Continue the lime-water and return to the spare diet.

January 12th.—Appetite far from being satisfied; pulse 72, soft; skin begins to soften; much less irritation of the glans penis; feels no pain in the loins, or in the abdomen; bowels regular. Continue the lime-water and spare diet.

January 13th.—Much nausea; bowels somewhat costive; pulse 88, soft, but rounded; pain in the pubes this morning, but it did not continue long; some little pain also in the loins; no fever; slept well; feels low-spirited; retained his urine yesterday with great facility; no sweetness perceptible in the urine; it is of a straw colour, with a strong urinous smell. To take an aperient. Continue the lime-water and spare diet.

January 16th.—The aperient operated, but again finding his bowels costive, he took more opening mixture yesterday; less appetite; pulse 72, regular, and rather feeble. Six ounces of blood to be taken from the arm; the lime-water and spare diet to be continued.

January 17th.—Blood drawn yesterday exhibits but little buff; pulse 92, soft, and more strong; bowels regular; has had regular and natural calls to pass urine; says "he feels better all over;" much thirst, and wishes for small beer. Continue his lime-water, and to have one pint of beer daily.

January 19th.—Pulse 88, soft, and moderately full; tongue covered with a thick white fur; bowels regular; has had much pain about the pubes, but he is now easy. Continue the same remedies.

January 20th.—Complains of inward sinking; a great depression of spirits; pain in the loins, and difficulty in passing urine; bowels regular; feet feel cold; pulse 80, soft, and moderately full. Omit the lime-water.

℞ Calumba, Magnesiæ āā. gr. x. Rhœi. Zingib. āā. gr. iij. m. f. pulv. bis. indie sumendus.

January 23d.—Pain in the loins relieved by a free discharge of urine; he had two stools; there is a considerable enlargement and hardness of the body of the right testis, without pain, or pressure. He says, he had hydrocele some years since, which was removed by tapping. To be examined by the surgeon. Wishes for more beer. Continue the powders; let him have more beer.

January 25*th.*—Testis continues the same. The urine is retained without pain or inconvenience; says he gains strength, and is free from pain; pulse nearly natural. Continue the powders.

January 29*th.*—Testis continues in the same state; tongue perfectly clean; pulse rather quickened, but soft and moderately full; says he feels very low in the morning; wishes to go into the warm bath.

January 31*st.*—The testis has diminished under the use of the camphorated mercurial ointment; he experienced no particular effect from the bath; he has had two stools daily, and retained his urine yesterday for five hours, but it came away involuntarily during the night; appetite perfectly satisfied; thirst moderated; the phymosis continues, but irritation at the end of the penis is moderated. Let a blister be applied to the sacrum.

February 2*d.*—The blister acted moderately well; has had three stools in the last twenty-four hours; retains his urine better during the night; it is passed in the day-time without any unusual effort; nevertheless there is a slight discharge of feces at the same time; slight ardor urinæ; from four pints of yesterday's urine, there was obtained about two ounces of brownish-coloured extract, tasting sweet, and of the consistence of treacle.

February 4*th.*—The feces have been so much passed with the urine, that it cannot be measured; pulse feeble; but says he gains strength. The powders were omitted; five grains of the oxide of bismuth were prescribed to be taken three times a-day.

February 6*th.*—Testis very much diminished; phymosis much the same, but the penis is free from inflammation; pulse strong and full; walks firm; feces passed with the urine. Continue the bismuth; to take five grains of opiate pill each night.

February 8*th.*—Has slept ill; pulse hard and full; incontinence of urine during yesterday. Omit the medicine; let eight ounces of blood be taken from the arm.

February 9*th.*—Blood buffy, and much cupped; pulse 100, more soft, but sharper; ardor urinæ; much thirst; pain in the head; hands and feet warm. To take a febrifuge powder three times a-day.

February 10*th.*—In consultation with Dr Marsden, one of the physicians to the hospital, the following medicines were recommended.

Pulv. ipecac. comp. gr. v. 5ta. quaque horâ sumendus; the use of starch glysters occasionally.

February 11*th.*—Feces continue to pass involuntarily; says he feels very weak; four pints of urine gave, on evaporation, six drams of extract, much lighter in colour than the last, saltish, and having the smell of urine. Continue the remedies.

February 13th.—Has been in the warm bath this morning, and has sweated a little since he came out; feces still passed with the urine; complains of much pain about the region of the bladder, when passing urine, and of great sinking in the bowels; says he feels his senses wandering both night and day, but appears in better spirits. Continue the remedies.

February 16th.—Bowels more regular, and but little feces passed with the urine; he can retain his urine during the day; it measured four pints in the last twenty-four hours; less of the ardor urinæ; says he feels considerably better, and wishes for some wine. To continue the remedies, and to have four ounces of port wine daily, and gum-water when he desires it.

February 18th.—Bowels regular; no feces passed with the urine; still feels pain in the bladder in micturition; tongue clean. Continue the remedies.

February 20th.—In order to examine the state of the bladder, an attempt was yesterday made to introduce the catheter, but it could not be passed into the bladder. He has since been able to retain his urine during the night; bowels regular; much less thirst; appetite good; sleeps well; pulse natural; says he feels stronger.

February 23d.—Has had much pain in the loins and about the pubes; and much pain and difficulty in passing urine; the urine throws down a whitish fluid, resembling pus. Continue the remedies.

February 28th.—The urine, since the last report, has amounted to five pints in the twenty-four hours; the deposit is clearly pus; he has had much pain in the bladder; with gradually increasing debility. In consultation with Dr Marsden, we were of opinion, that the bladder was in a diseased state, and considered the case as nearly hopeless. The medicines were omitted, and the following recommended:

℞ Uvæ ursi ʒj. pulv. tragac. comp. ℥ß. m. f. pulvis ter indie sumendus. Sumat gr. iij. extract. hyoscyami nocte maneque. Continue the wine and gum-water.

March 2d.—Urine passed involuntarily, the quantity very small; has considerable distension and inflammation of the scrotum, which gives great pain; labours under much anxiety; pulse very quick. Continue the medicines. The surgeon is requested to attend and examine the scrotum.

March 3d.—Swelling of the scrotum undiminished, less redness; penis much swelled; pain increased on pressing the abdomen, and excessive in passing urine or feces; countenance very florid; skin hot and dry; pulse quick, but full and hard. Omit the medicines. Take eight ounces of blood from the arm; to take a febrifuge powder every four hours.

March 4th.—The pain and distension of the penis has been so great, that the surgeon was obliged yesterday to divide the prepuce and scarify the scrotum, and he is now relieved from the violence of pain; the countenance has sunk much; the pulse is full; blood drawn yesterday presents a buffy coat. To have port wine and generous diet.

March 7th.—From the last report he has been gradually sinking, and died yesterday afternoon.

Dissection, twenty-eight hours after death.—The stomach was found very tender and easily ruptured; the ilium discoloured, the intestines, in other respects, natural; the left kidney larger than natural, its pelvis much dilated, and the upper and lower extremities scirrhous; the pelvis of the right kidney also dilated. The ureters very much dilated, and, through their whole course, measured full half an inch in diameter. The coats of the bladder formed a solid mass, in every part about half an inch thick; the rugæ of the internal surface very much enlarged; the bladder contained seven ounces of pus; no urine was found in the kidnies, ureters, or bladder. The neck of the bladder was corrugated, and apparently scirrhous round the origin of the urethra; the urethra itself was cartilaginous through its whole length, and nearly resisted the scalpel; the scrotum was distended to three times the natural size, and on dividing the integuments, presented a complete pulpy mass of a cream colour; the right testis, about twice the natural size, and completely scirrhous, was almost lost in this mass of disorganized matter; it had a cavity, which contained nearly two drams of yellowish serum; the left testis had been wholly destroyed, and no trace of it remained.

In the whole course of the treatment, Omrad always represented himself better on taking any fresh medicine. A few days removed the sanguine hopes which he had formed, and he relapsed again. This is so common an occurrence in diseases which induce such extreme irritability, that medical men are sometimes deceived by the false feelings of the patient. He was very much alarmed at being bled the first time, but he was ever afterwards anxious to have it repeated, and often requested to have more blood taken from him; he had great confidence in this plan of treatment, feeling, as he expressed himself, "so lightsome and full of spring afterwards." The buff on the blood was equal to what is generaly observed in inflammatory diseases, excepting in the third bleeding; but on the fourth, twenty-two days after, it was very much cupped with inflammatory buff. The last bleeding, it will be evident, was a vain attempt to moderate the then urgent symptoms *. It was not before the 13th of February that he referred to the bladder as the seat of pain; when asked to point out the part in pain, he had generally passed his hand across the abdomen, from ilium to ilium; it was therefore suspected to be the twisting pain mentioned by Mr Watt, as a symptom in his cases; but after the ineffectual attempt to introduce the catheter, on the 19th, it became apparent that there was some disease of the bladder, and the dissection explains the nature of the obstruction to this instrument. The phymosis, as observed by Dr Watt, was very marked in this case, and in two others that casually fell under observation.

The following table gives the weight of the solid food, the measurement of the liquids, and of the urine; the avoirdupoise weight, and the wine measure were used; the diet was that which is called the "full diet" of the hospital †.

	SOLIDS.	LIQUIDS.	URINE.		SOLIDS.	LIQUIDS.	URINE.
1810.	*Oz.*	*Pints.*	*Pints.*	1810.	*Oz.*	*Pints.*	*Pints.*
Jan. 9.	9	4	12	Jan. 21.	23	6	5
10.	11½	4	12	22.	23	6	5
11.	7	5	12	23.	16	5½	5
12.	9½	4	12	24.	23	5½	4½
13.	10	4	12	25.	25	4½	4½
14.	11½	4	12	26.	25	4½	5
15.	11½	3½	12	27.	22	4½	4
16.	7	4½	10	28.	22	4½	4
17.	23	6	12	29.	23	5	4½
18.	16	6	5	30.	14	6	4½
19.	25	3½	5	31.	23	5½	4½
20.	25	6	5				

The quantity of urine was suddenly lessened from twelve to five pints, on the 18th of January, without any apparent cause. For such a remarkable diminution, the report of the 17th represents him as much better, but on the 19th, he is said to have had much pain about the pubes; it is very probable, that the inflammation of the bladder had then commenced. The passing of feces, during any unusual efforts in micturition, was at first attributed to his excessive irritability; this circumstance precluded a very accurate estimate of the urine evacuated; the quantity stated in the table was that which was passed free from feces; it must in consequence be considered as an under-estimate.

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* This state of the blood is very different from that observed in Dr Watt's *cases*, and can only be explained as an effect of the animal diet on the system.

† See Edinburgh Medical and Surgical Journal, Vol. iii. p. 314.

His gums were very spongy, and his teeth loose, but no ulceration followed. The soreness of the kidnies and pain in micturition have been generally observed, and in consequence were here considered a symptom of the disease. There was no inflammatory affection of the chest, nor any œdema of the feet. The decline of mental energy was very strongly marked; he was particularly peevish, and often cried like a child to go home. His memory became very treacherous, and he at last confessed he scarce knew what he did, although, previous to this disease, his temper was excellent and his faculties strong *.

In this case, the general relief experienced from the bleeding was certainly very marked, and inspired sanguine expectations as to the result. As far as this may be admitted, it goes in support of Mr Watt's treatment, against which the unfavourable termination of this case cannot in the least militate; nor will it intimidate the reporter from pursuing the practice on the first favourable occasion.

In most of the cases hitherto related of this disease, the patients have, for some time previous, sweated copiously on the least exertion, and the diabetic affection has been invariably moderated by a return of the sweating; this is particularly marked in the case before us.

Something analogous to this occurs in health; whilst sweating is kept up, the quantity of urine is diminished, but when it ceases, the urine again returns to its natural standard. If, however, the sweating be suddenly checked, the urine will be increased above the natural quantity, and symptomatic diabetes may be produced; for the skin of the patient will become shrivelled and arid, he will feel cold and uncomfortable, and probably a complete train of febrile symptoms may follow. He is then said to have taken cold, and is treated according to the symptoms which succeed this cold fit; if high inflammatory action, by bleeding; if common fever, by salines and other medicines, with a view to restore the cuticular discharge; and this may be effected sooner or later, according to the shock the system has received. "If the system," Dr Watt says, "possess sufficient vigour, the reaction goes on to a proper crisis, that is, till the blood be restored, and become the natural stimulus of the nervous system, the proper food for the excretories, and for the vessels which repair the solids. In place of fever, the balance is often restored by a critical evacuation. If the

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* *See Watt's observations on this symptom, p. 126.*

the superfluous matter take to the intestines, it produces diarrhœa; if to the kidnies, diabetes; if to the uterus, menorrhagia; if to the cutaneous exhalents, profuse perspiration. All these evacuations, to a certain extent, are salutary. They often prevent fever, shorten its duration, or render it more mild *."

The intimate connection which subsists between the skin and the urinary organs, is most indisputably proved by applying cold to the feet, or dashing cold water on the thighs of a person suffering from suppression of urine; immediate relief is generally produced, when there is no organic disease of the bladder or urethra. We ought not, then, to be surprised at the odour, which garlic rubbed on the feet produces in the urine, nor that blisters should cause a suppression of urine, and that this excretion should be considerably augmented when a sweat is suddenly checked. These considerations lead us to the examination of the state of the skin in diabetes; we find in most of the cases, that it is said to be "arid," "hot," "dry," or "hide bound;" the last term is commonly used by veterinarians, to whom this symptom indicates the immediate necessity of bleeding and diaphoretics, to prevent inflammatory action. This state cannot wholly depend upon absorption of the cellular membrane, as it is not observed in diseases where this has taken place; it may nevertheless add to the original cause; but what is of the greatest importance to remember is, that in every report of amendment, the skin, when noticed, is found to have become moist, and that diminution of urine has only been consequent, or attendant, on an improved state of the skin; in proof of this, the reader is referred to the cases of Watt, Bardsley, and Rollo. "The state of the skin," Watt remarks, "deserves particular attention. It is in this quarter that the first impression of disease is generally made; and we have no security of the system being fully restored, till the skin become natural in its appearance, and resume its functions †."

The theory of Dr Rollo is not found sufficiently satisfactory to explain the symptoms of this disease, nor has the treatment, which he recommended, fulfilled the expectations of the public. Total abstinence from vegetable food has not wholly destroyed the saccharine impregnation of the urine ‡, from which we may conclude, and experience, in fact, proves, that it is not sufficient to effect a cure. The hepatized ammonia has been long since laid aside; the nitric acid produces no permanent good; and the whole of the treatment now depends upon what have been used

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* *Cases of Diabetes*, page 208. † Cases of Diabetes, page 222.

‡ *Bardsley's Medical* Reports, page 165.

used, as auxiliaries to his system—emetics, antimonials, and the warm bath. And these have proved salutary, in proportion as they have relieved the skin from its morbid state, which Dr Rollo always attributes to an improvement in the state of the stomach, and he asserts that the skin has no connection in the production of the disease*.

The obvious intention of these remarks is to suggest a theory for diabetes, which appears sufficient to explain the symptoms, and to reconcile us, in great measure, to the opposite methods of treatment of Drs Rollo and Watt.

It has been already observed, that in most of the cases of this disease, the individuals have been previously subject to profuse sweating, which was suddenly checked by external cold, by drinking cold liquids, or by eating acid fruits, and speedily afterwards the diabetic affection appeared. Reflecting on this circumstance, it appears very rational to conclude, that the kidney became the receptacle of this suppressed fluid, and that the sweating, not simply the perspiration, was kept up from the kidney. This revulsion, as the ancients would call it, is admitted to occur from the kidney to other organs, and the converse must be equally correct. "When the urine is not excreted, on account of some defect of the kidnies, ureters, or bladder, it has been exhaled into the skin, ventricles of the brain, or into the whole cellular fabric. The perspirable matter of Sanctorius, though so fluid, by cold is sent off by the urinary passages, and by fear, or by medicines, through the excretory villi of the intestines†." The kidney will then have to throw off this sweating fluid in combination with the urine, which, from the stimulus given by this unnatural irritation, would be secreted in greater quantity; and to this stimulus, the urinary organs cannot become habituated, as it is to be supposed it will be subject to the same variation as the cuticular discharge, sometimes being mild, at other times irritating; and on this principle, the constant irritation of the urinary passages, and the phymosis, may be explained. In consequence of this increased action, the circulation in the kidney will be quickened; a greater supply of blood will be required. Hence the stomach is called into inordinate action, and the demand for food proportionably increased; the appetite becomes craving; it is no sooner gratified, than digestion hastily commences; chyme is formed, from which the chyle is quickly separated; but from the urgent demand of the kidney, it cannot be completely formed into blood, and in consequence, passes into the kidney with the blood, and there mixing with the urine, gives to it the saccharine quality; thus we may explain the bulimia, dyspepsia, and sweetness of urine. "Hence the increased celerity of the blood so easily forces the red globules through these tubes, (uriniferous tubes) and, by morbid relaxation, they transmit the true fat and the chyle, and the salts of the meat and drink.*" Whilst this increased action is kept up in the kidney, every successive increase of debility, in any other organ, will throw the more on the kidney. The stomach suffers first, being kept in constant action, and irritated by the gastric juice, which the constant sense of hunger calls into this cavity; and the more action required from this organ, the quicker must be the circulation through it; and if the supply of blood be not adequate, and the balance preponderate in favour of the kidney, the stomach must suffer doubly by the irritation of the gastric juice, and the want of support, which at last render it unable to digest its contents, and the patient dies from inanition.

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* *Rollo's Cases*, page 140.

† Haller's Physiology, 8th edit. page 100.

Most diabetic persons have previously suffered from some local affection of the kidney, as gravel, or slight inflammatory action, often produced by indulgence in spirituous liquors; which, by debilitating this organ, render it more prone to subsequent disease. "That indulgence in spirituous liquors; exposure to cold and wet; a habit of profuse sweating; the immoderate use of acid drinks, (such as sour butter-milk and whey) excessive labour, joined to hard fare; and the depressing passions, are among the most frequent predisposing causes of the disease.†" Some individuals have an hereditary disposition to the disease, as has been noticed in a communication from Dr Storer to Dr Rollo. There is now in Nottingham a marked instance of this disposition, six out of twelve children, in one family, having died of the disease.

Considering the theory of the disease, as already detailed, to be correct, namely, that diabetes is a sweat, driven from the cuticular surface into the kidney, where this morbid determination keeps up a profuse discharge, it is next required to shew how the treatment of Drs Rollo and Watt may be reconciled.

In the commencement of this disease, every thing should be done to turn the cuticular discharge into its proper course; this is to be effected by bleeding, the warm bath, and the administration of nauseating doses of tartarised antimony, ipecacuanha, and other medicines that possess the power of acting on the skin, without proving diuretic. Thus, the acetite and nitrate of potash would be bad medicines in this case. This treatment is to be assisted by a spare diet of animal and vegetable food. Having thus restored the natural secretion to the skin, nothing more remains than to moderate it, and to adopt the prophylactic measure, to prevent a recurrence of the same disease. But should this plan not succeed, and the disease baffles our means, it must be considered chronic, and now depending on a laxity or debility of the extreme vessels in the kidney; which opinion, the appearance of the kidney, and the state of the blood-vessels, tend very much to confirm. It is then to be treated by astringents, tonics, blisters to the loins, the warm bath, and nourishing diet.

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* *Haller's Physiology*, page 385.

† Bardsley, page 170.

The following distressing case is entered in the table of diseases * under Hemicrania.

James Rider, aged 26, married, frame-work knitter, became an out-patient of the hospital, June 7th 1808, and then complained of much distressing pain in the head, particularly when lying upon the left side; giddiness and defective vision. These symptoms wholly recede, and again return with undiminished violence; much thirst; fever; pyrosis; pulse full and quick; bowels costive; appetite bad.

He relates that he has been some months ill, and that he has been salivated, under the supposition that his disease was syphilitic.

℞ Calumbæ pulv. magnesiæ aa. gr. x. Rhœi pulv. Zingib. pulv. āa. gr. iij. m. f. pulv. bis. indie sumendus.

June 23d.—Cannot attend the hospital; he has had several fits, with globus hystericus; the pain in the head is very severe, increased on motion, and by the slightest pressure; the occiput appears unusually prominent; pupils dilated, but readily contract on sudden exposure to light; nausea; unpleasant taste; pyrosis continues; tongue furred; bowels obstinately costive; gums swelled; the giddiness, with a total deprivation of sight and speech, and stiffness of the limbs, returns by fits; these are not attended with frothing at the mouth; they do not terminate in sleep, nor is there a total abolition of the senses.

To take opening mixture immediately, and, if necessary, an emetic in the evening.

℞ Hydrar. submuriat. gr. j. Pulv. antimon. gr. iij. Confect. sennæ q. s ut. f. pil. nocte maneque sumenda.

Let eight leeches be applied to the temples in the morning; the head to be shaved and blistered.

July 2d.—Received into the hospital; gums sore, with some spitting; the remedies prescribed in the last report have had their effect; he now feels a dull heavy pain in the head, particularly over the eye-brows; passes urine freely, and in proper quantity; pulse quick, and rather hard; bowels regular. Omit the pills.

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* *Edinburgh* Med. and Surg. Journal, Vol. vi. page 14.

℞ Cinchonæ cordifoliæ pulv. ʒij. Ol. succini gutt. xvj. Mucilag. acaciæ q. s. ut. f. pil. 24. quarum sumat iij. ter indie ex poculo infusi anthemidis frigid.

July 7th.—Has had occasion to take the opening mixture once since last report; complains to-day of a pulsation in the head, increased by the horizontal posture, and general soreness of the head, particularly over the eyes; no sound sleep; pupils less sensible to the impression of light; bowels costive; passes plenty of urine; some thirst; unpleasant taste; profuse flow of saliva; pulse 104. Omit the medicines.

To take an emetic in the evening, and, if necessary, the opening mixture in the morning.

July 11th.—Complaining of pain, and weight in the nape of the neck; eight ounces of blood was taken away from the part, by cupping.

July 14th.—Cupping afforded much relief; was obliged to take the opening mixture this morning.

℞ Hydrar. submuriat. gr. iv. Extract. jalapæ gr. x. m. ut. f. pil. ij. alternis diebus sumendæ.

Repeat the blister to the head.

July 19th.—Tongue covered with a very dark crust, which was first observed on the 15th; prostration of strength; pulse much quickened, probably from mental agitation; less pain in the head, and referred to the occiput and nape of the neck; purgative taken yesterday operated very freely; the feces were very fetid; says he finds relief from the purgatives. In the middle of the night of the 17th, he was seized with a fit, which continued fifteen minutes. He has taken daily four ounces of port-wine since the 15th, which is to be continued, and the purgatives to be omitted; the pills, with calomel and antimonial powder, to be repeated night and morning.

℞ Camphor. pulv. gr. v. Ammon. carbonat. gr. x. Confect. aromat. q. s. ut. f. bolus ter die sumendus.

July 21st.—Has double vision; screams and starts in his sleep; great anxiety expressed in his countenance; bowels costive. Omit the boluses; continue the pills and wine; to take the opening mixture occasionally.

July 23d.—Gums sore; eyes prominent and watery; pupils somewhat dilated; at times double vision; tongue still covered with a brown crust; has not screamed during the two last nights; says he had no sleep last night, in consequence of a disagreeable sensation in his head, as if the muscles of the neck were forcibly drawing the head backwards; the pain in the head is now confined to the left temple; the occiput feels sore; the same sensation of soreness is felt in the arms and legs; urine passed in considerable quantity, and freely; no nausea; pulse 96, soft, and moderately full; the bowels have been kept open by the aperient.

Continue the remedies, and apply a blister to the nape of the neck. To take thirty drops of tincture of opium at bed-time.

July 25*th*.—Passed a much better night on the 23d, but was very restless last night; pain in the nape of the neck returns at times, with much violence, but does not observe any regular periods; during the continuance of the pain, the head is drawn a little backwards, as in opisthotonos, although the muscles do not feel rigid, but the eye is fixed; pulse 88, moderately full, regular and soft; tongue the same; he has three stools during the day, of soft consistence, but with much fetor; passes urine freely; has been in the warm bath, which afforded temporary relief.

Continue the medicines; take thirty drops of the tincture of opium each night, at bed-time; and rub into the thighs half a dram of strong mercurial ointment, night and morning.

July 27*th*.—In consultation this day with Dr Storer, (physician extraordinary to the charity) after examining very carefully the preceding reports on this case, and the present state of the patient, no determined opinion could be given of the exact nature of the affection of the brain; it was thought prudent, therefore, first, to treat it as hemicrania; the former medicines were in consequence omitted, and the following substituted:

℞ Zinci sulphat. gr. viij. aq. distil. ʒxvj. acid sulphur. dilut. gutt. x. m. sumat ʒj. 8va quaque horâ.

Continue the opening mixture and the wine, and let a seton be placed in the nape of the neck.

July 30*th*.—Wishes to delay the seton; had but little sleep on the 27th; slept well last night; very little pain in the head, and that referred to the forehead; tongue less furred; had vomiting yesterday, followed by purging; pulse 88, moderately full and regular; urine natural; still vertiginous; vision less affected. Continue the remedies.

August 4*th*.—The pain has returned in the back part of the head and left temple; tongue nearly clean; appetite improved; bowels regular; pulse about 100, small and soft. Omit the wine.

Take two drams of the solution for a dose; continue the aperient.

August 13*th*.—Has been free from pain since the last report, but feels a soreness in the head; bowels obstinately costive; tongue furred; pulse full and quick. Continue the medicines, and repeat the aperient. Made an out-patient at his own request.

August 25th.—Has had another fit, which continued about one hour, but does not find any inconvenience from it; free from pain, but complains of a weight over the eyes; bowels kept regular. Continue the remedies.

September 1st.—Has not had any fit, but severe headach at irregular intervals; bowels kept regular. Continue the medicines.

September 8th.—Much pain in the left side of the head; has not had any fit, but he says many threatenings, which he cannot describe. Omit the medicines.

℞ Pil. galb. comp. ʒiſs. Pil. aloes cum myrrh. ʒſs. m. et divide in pil. 24. quarum sumat iij. bis indie.

September 16th.—Returns again into the house, suffering from the same tormenting pain in the head, totally depriving him of rest; pulse 88, regular, soft, and moderately full; bowels regular; skin cool. Omit the medicines.

℞ Tinct. opii. tinct. castorei āā ℥ſs. m. sumat gutt. x. 3tia quaque horâ dolore urgente.

September 17th.—Finds no permanent relief; had some sleep in the night; has had no stool since the 15th; urine plentiful; pulse 88, soft, and not full; vision is still at times double. Omit the medicines.

℞ Hydrar. submuriat. gr. vj. jalap. ℈j. tinct. jalap. q. s. ut fiat bol. cras summo mane sumendus, et si opus sit, post horas quatuor infus. sennæ ℥ij.

September 21st.—Purgative operated several times, but in small quantity; pain continues much the same.

Sumat pil. ij. aloetic. cras summo mane et 2da quaqua horâ donec purgaverit. Sumat cochl. iij. larg. mixt. aromat. ter quaterve indie.

September 22d.—Vomited the pills; pain in the head increased. Repeat the calomel bolus of the 19th.

September 23d.—Has had two copious, and rather dark-coloured stools, from the bolus; much less pain to-day; slept much better last night; nauseates the cordial mixture.

To have four ounces of wine daily.

Repeat the bolus to-morrow morning, and assist the operation by the infusion of sennæ.

September 26th.—The bolus, which was taken on the morning of the 24th, produced no stool, until about four o'clock of the morning of the 25th; and in the course of that day, he had five fetid and watery stools; the pain in the head was, however, much increased towards night, and he complained of a numbness,

ness, and a kind of spasmodic action of the muscles of the superior extremities; he rested tolerably well in the night, and, although he complains of general uneasiness and giddiness, he appears not to be worse.

℞ Hydrar. submuriat. gr. xij. rhœi pulv. gr. xv. aq. puræ q. s. ut ft. bolus statim sumendus.

℞ Sodæ tartarisat. ʒvj. infus. sennæ ℥iij. solve f. haustus horâ 6ta vespere sumendus.

Let him have eggs for dinner, and beef-soup when he requires it.

September 27th.—The bolus and draught produced seven motions, upon the whole pretty copious, but of a dark-green colour, and very fetid; rested well, and to-day feels much better; the pain is removed from the head into the back; he says he can move his head with more freedom than for some time past; countenance more lively.

℞ Pil. aloet. ʒj. divide in pil. 12. quarum sumat ij. 2da quaque horâ donec purgaverit et post sing. dos. mixt. salin. efferves. ℥j.

September 29th.—The pills produced two motions similar to the last; he rested well on the 27th and 28th, and was, to all appearance, much better; his appetite was improved; he expressed himself as in every respect relieved, and seemed convinced of his recovery; but, about eight this morning, he was suddenly attacked with a fit resembling epilepsy, in which he died in about ten minutes after the seizure.

Dissection.—The vessels of the dura mater, and surface of the brain, fully injected with blood; both the lateral ventricles were very much enlarged, but did not then contain more than two ounces of fluid. Directly over the cerebellum, and inclosed in the posterior lobe of the left hemisphere of the cerebrum, there was a hard tumor, which measured, after the contents had been evacuated, in length two inches, in breadth one inch and a half, and in depth one inch and a quarter; it was firmly attached to the tentorium; and when opened, was found to contain about one ounce of thin greenish pus; the substance of the brain, in the vicinity of the tumor, was converted into a pulpy mass, resembling healthy pus. The cerebellum was in a sound state. The dura mater was obliterated at that part where the tumor pressed against the occipital bone, and the bone itself felt rough.

Baillie gives the following description of tumors in the brain: "It is not a very unusual appearance of disease in the brain, to see a white substance formed in it, of an uniform smooth texture, and with a considerable degree of firmness. The brain adheres to this substance, and round its edge often appears more vascular than usual. The substance is scrofulous in its nature, for I have had an opportunity of seeing it converted into scrofulous pus *." The brain, in this case, did not adhere, but the tumor may rather be said to have floated in pus; nor was the matter within the tumor like scrofulous pus, which is said to be "white, and to resemble curdled milk;" this, on the contrary, was this greenish pus, and that surrounding the tumor was what is called "laudable, or good pus." Should the description already quoted be admitted as a definition of scrofulous tumors in the brain, our dissection presents a tumor of a different species, but not less fatal to the unfortunate sufferer. The destruction of the dura mater, and the roughness of the occipital bone at that part against which the tumor pressed, show a disease of long duration.

The situation of the tumor in the left hemisphere of the cerebrum, affords an explanation of the pain he endured when lying on the left side. The affection of sight is to be attributed to the fluid in the ventricles, and this symptom varied much, sometimes being very inconvenient, at other times barely perceptible. The fever doubtless arose from the irritation which this tumor, and latterly the formation of matter, produced on the system. The obstinate costiveness, which is a common symptom in hydrocephalus, is admitted to be a consequence of general torpor of the intestinal canal; which was certainly very evident in this case, as not only affecting the bowels but the stomach also, of which the repeated nausea, constant pyrosis, and bad appetite, are marked symptoms. He had been once or twice salivated for this disease, under the impression that it arose from a syphilitic taint; the symptom that probably led to this opinion was the increase of pain in the night, but which would have been the same in the day, had he placed himself in the horizontal posture. This conclusion is drawn from the state of the patient when he came under the care of the reporter. He had never been subject to fits previous to this disease. At first they intermitted with globus hystericus, which threw a doubt on their nature; but they differed from hysteria, in not being attended by laughing and crying, or any of the preceding symptoms, except the globus; they differed from epilepsia by not terminating in sleep. There is little doubt but the first fits with which he was afflicted were the convulsive, a common symptom in hydrocephalus, and latterly, that they assumed the epileptic character, not an unfrequent symptom of tumor in the brain; but as they generally happened in the night, they escaped medical observation.

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* Morbid Anatomy, p. 485.

On examining the reports, a great difference will be observed in the urgency of the symptoms; and, what is very remarkable, that from the 4th of August to the end of that month, he felt tolerably well, and thought himself recovered, being at his own request made an out-patient. The relief that he thus sustained, and the subsequent relapse, were equally sudden and unexpected. This alleviation from symptoms so very urgent, can only be explained on the supposition, that the pressure on the brain was very much diminished, by the absorption of a portion of the fluid contained in the ventricles. The returning pain was again attended with double vision, and great torpor of the intestinal canal. It is not presuming too much to conclude, that more fluid had been exuded into the ventricles, and the symptoms consequent on this renewed pressure were induced. Although the ventricles contained a large quantity of fluid, yet they were by no means filled, but appeared to have held at least double the quantity than that found on examining the brain, which must have been absorbed; and there is every reason to believe this took place a few days previous to his death, when he appeared so much relieved by the purging system which had been so steadily pursued. In the report of the 26th of September, Rider complained of a numbness, and a kind of spasmodic affection of the muscles of the superior extremities; and on the 27th, he mentions, that the pain had moved from the head into the back. These two symptoms might be produced by the pressure of the tumor, which accords with Baillie's description of "the symptoms, which have been observed to attend the formation of solid or encysted tumors in the brain; permanent uneasiness, or pain in the head; sometimes delirium, sometimes convulsions, and sometimes it has been said the common symptoms of apoplexy. It is worthy of remark here, that when tumors of any kind press upon the thalami nervorum opticorum, or the optic nerves themselves within the cranium, vision becomes impaired in various ways; and that, when tumors press upon the tuberculum annulare, or the medulla oblongata, convulsions are very apt to occur *."

This case has been detailed with more minuteness, to shew the advantage of a clear diagnosis between tumor in the brain and hemicrania. Had any thing like a certainty existed as to the nature of the disease, the seton which Dr Storer recommended would have been insisted in; from which, however, had the consent of the patient been obtained, but little could have been expected

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* Morbid Anatomy, p. 457.

expected in a case so very far advanced. In the early stage, if the symptoms could be distinguished, as pointing out the nature of the disease, the employment of a seton would probably be the most active remedy that could be adopted. It is reasonable to conjecture, that the brain was affected with repeated inflammatory actions, producing the same pain of which he so often had just reason to complain. Rider was so patient under such accumulated suffering, that credit was barely given to his accounts of what he endured.

It affords the reporter no small gratification, to be enabled to detail the successful treatment of the two following cases of water in the brain.

William Saxeby, aged 13, whip-manufacturer, became an in-patient of the hospital, June 28th, 1808. Complaining of pain in the head over the eye-brows; imperfect vision, but without squinting; much nausea, but no vomiting; grinding of the teeth, and snoring in his sleep; much thirst; no appetite; passes but little urine; bowels always costive; the eyes are very prominent; the pupils contractile, but small; tongue furred. He has had several convulsive fits, in which the body has been fixed for an hour; pulse 90, small and feeble; staggers in his walk, and is at times vertiginous.

He has been ill nine weeks, and was first attacked by a convulsive fit; never passed any worms.

Applic. emplast. lyttæ capiti raso.

℞ Hydrar. submuriat. gr. j. pulv. antim. gr. ij. confect. q. s. ut f. pil. nocte maneque sumenda. Sumat mixtur. purgan. cras mane.

July 2d.—Free from pain in the head; vision improved; still some nausea; tongue nearly clean; appetite good; bowels still costive; passes more urine; the blister has acted well. Continue the pills, and repeat the purgative.

July 4th.—Vomited his breakfast this morning; in other respects much better. Continue the medicine.

July 7th.—Has vomited every morning; but little pain in the head; walks without vertigo or staggering; he finds much affection of sight after lying down, which he says is like a skim over his eyes, and continues at least five minutes; much drowsiness; no snoring or grinding of the teeth; eyes less prominent, but far from having recovered their natural appearance; pupils contractile; fevered in the evening; blistered part healed; bowels regular. Omit the pills; repeat the blister to the head.

℞ Hydrar. submuriat. gr. j. extract. hyoscyam. gr. ij. m. f. *pil. nocte maneque* sumenda.

℞ Hydrar. submuriat gr. iv. extract. jalap. gr. x. m. f. pil. ij. cras summo mane sumendæ.

July 9th.—Pills operated freely; blister discharges well; has not vomited since last report; less drowsiness; no affection of sight. Continue the pills, and repeat the purgative in the morning.

July 11*th*—Much less drowsiness; free from pain; no vomiting. Continue the pills, and repeat the purgative in the morning.

July 14*th.*—No drowsiness; bowels regular; pulse 100; blistered part healed. Repeat the blister to the head; to take the purgative in the morning, and continue the pills.

July 19*th.*—Free from complaint. Continue the medicine, and repeat the purgative in the morning.

August 2d.—Dismissed cured.

Elizabeth Hickling, aged 4, became an out-patient of the hospital, November 22d 1808. Is affected with a very considerable enlargement of the cranium, without puffiness of the integuments; a constant rotatory motion of the head, with great desire to lay it anywhere for support; eyes very prominent, and in constant irregular motion, with a great degree of strabismus, and dilated pupils, very little sensible to the irritation of light; staggering step, and cannot walk alone; good appetite; no perceptible fever; but will not permit the pulse to be examined.

Has been eighteen months ill of this disease, which the mother says immediately followed the measles. The fontanelle is quite open, and the pulsation seen at some distance; the membrane full half an inch broad.

℞ Hydrar. submuriat. gr. ß. pulv. antimon. gr. j. m. f. pulv. nocte maneque sumendus.

℞ Hydrar. submuriat, gr. iij. jalap. pulv. gr. viij. m. f. pulv. purgans cras summo mane sumendus.

Applic. emplast. lyttæ capiti raso.

November 24*th.*—Blister has acted freely; purgative operated well. Continue the powders; let the blistered part be kept open with the unguentum lyttæ.

December 1*st.*—No soreness of the gums; blistered part discharges freely. Continue the powders; repeat the purgative.

December 15*th.*—Eyes more steady, and vision improved; walk more firm; less rotatory motion of the head; blister discharges freely. Continue the powders.

January 12*th*, 1809.—Has had strangury, produced by the irritation of the blistering cerate, which was in consequence omitted, and the blistered part had now healed. There is still much involuntary motion of the eyes, but less strabismus; step more firm, and quite steady; no soreness of the mouth or gums. Continue the powders; repeat the purgative in the morning; let a blister be applied to the head.

February 2d.—The blister produced a plentiful discharge, and the part is now healed; vision nearly natural; walks steady and firm without support; but little involuntary motion of the head; plays with other children, and gains strength. Continue the powders; repeat the purgative in the morning; and apply another blister to the head.

March 2d.—The blister acted well, and the part is now healed; the purgative has been once repeated since the last report; the head is diminished; vision correct; walks firmly and alone; gains strength; bowels have become regular; has never passed any worms. Continue the powders; repeat the purgative; and apply another blister to the head.

March 16th.—The blister has acted sharply, and produced much pain; has had vomiting; some febrile action; bowels regular. Omit the medicines; to take the febrifuge powder three times a-day; repeat the purgative in the morning.

March 23d.—Complains of much pain in the right side; the bones of the crown of the cranium hard and unusually prominent; a strong pulsation at the posterior fontanelle; febrile action continues. Continue the medicine, and apply another blister to the head.

March 30th.—Free from pain; less fever; quite playful; bowels regular; walk quite steady and firm; blister has acted well, but the part has now healed. Continue the febrifuge powders; repeat the blister to the head.

April 13th.—Blister produced a profuse discharge; continues better. Repeat the blister to the head, and continue the powders.

April 27th.—The mother reports that the last blister acted well, and that she is much better. Continue the powders, and repeat the blister to the head.

May 11th.—Continues better. Repeat the blister, and continue the powders.

May 25th.—Convalescent. Repeat the blister, and continue the powders.

June 8th.—Convalescent. Continue the powders.

June 22d.—Convalescent. Continue the powders.

July 6th.—Perfectly restored to health.

Dismissed cured.

These cases of water in the brain were treated on precisely the same plan. Saxeby had been only nine weeks ill, when he came under the care of the reporter, with symptoms sufficiently alarming to those who have often seen this disease equally mild at its commencement, and, in the end, baffle all their medical skill. Under the plan of treatment immediately adopted, he speedily began to mend, and progressively recovered his health. He had never been subject to worms, nor did he pass any during his residence in the hospital. Hickling had been eighteen months ill, the disease had assumed a very threatening aspect, and there appeared very little probability of her recovery; but in consequence of the pressing solicitations of the mother, the reporter put this little patient under the plan of treatment which had proved so satisfactory with Saxeby;—not without much fear that she might want the firmness necessary to follow, implicitly, the instructions that might be found necessary. The child was under the age at which they are received in the house, the whole, in consequence, was left to the mother, who certainly deserved the confidence reposed in her. The blisters had the best effect; no less than ten were applied to the whole calvaria, or upper surface of the head, which was always closely shaved, and afterwards bathed with good vinegar, for about an hour before the blister was applied, which, from the stimulus the vinegar had induced, generally acted immediately. From the 22d of November to the beginning of January, the blistered surface was kept in full discharge by the blistering ointment; but severe strangury being induced by this constant irritation, it was allowed to heal, and repeated blisters were preferred, at every one of which, large quantities of fluid were discharged, but the parts healed astonishingly quick. The mouth was not in the least affected by the mercury; not even the slightest soreness of the gums or taint of breath was produced, although Saxeby took seventy grains, and Hickling one hundred and fourteen grains of the submuriate of mercury. This is not noticed as an unusual symptom; on the contrary, experience teaches us, that there is great difficulty in producing any effect on the mouth by mercury in this disease, and a much larger quantity than what is here mentioned, has been given to younger patients without producing ptyalism; but it is not often that cases are related of the same regular dose being kept up, without any intermission, for 114 days, without inducing some degree of salivation. The vomitings that troubled Saxeby every morning in the month of July, ceased when the hyoscyamus was substituted for the antimonial powder; but this symptom most probably arose from the nature of this disease, and was not caused by the antimonial; he, however, attributed it to his pills, and these were in consequence altered.

The following case of dropsy in the pericardium, shows the powerful influence of digitalis with supertartrit of potass.

George Bond, aged 59, married, frame-work knitter, came under the examination of the reporter as an out-patient of the hospital, January 24th 1809. Complaining of pain in the heart, and sometimes palpitation; increased by lying on the right side, when a short dry cough is immediately induced. Urine scanty, but no œdema of the legs, pulse about 110, irregularly intermitting, and moderately full; bowels costive; appetite irregular; finds relief in lying on the left side, or when bending the chest forward over a chair-back.

Has been ill two weeks, and attributes the disease to taking cold in his feet.

Mittr. sanguis e brachio, ad ℥vj, statim. Sumat ʒj. pulv. jalap. comp. cras mane.

℞ Pulv. fol. digital. gr. j. Potassæ supertartrit. ℈j. m. f. pulv. nocte maneque sumendus.

February 2d.—Cannot attend to-day, but reports that he is no better. Continue the powders.

February 16th.—Pain has removed towards the loins; free from palpitation; can lie a little on his right side; but little cough; urine much increased; pulse in every respect natural; bowels regular; appetite good; gains strength. Continue the powders.

March 2d.—Complains only of debility; bowels regular. Continue the powders.

March 16th.—Still complains of weakness; omit the powders.

℞ Myrrh. pulv. ʒj. Ferri carbon. ʒß. Aq. menth. pip. aq. puræ aā ℥iiiß. tinct. gut. comp. ℥j. m. f. mixt. sumat cochl. iij. larg. ter indie.

March 30th.—Perfectly restored to health.

Dismissed cured.

The digitalis evidently induced absorption, and increased the quantity of urine; its effect could not be ascertained, as the patient walked from some distance in the country to the hospital, on the days of attendance, and consequently remained under the influence of that exertion.

In prescribing a medicine so active as digitalis, it is usual to begin by a small dose, and gradually increase it until some effect is produced on the system; this will generally follow from a grain taken night and morning, but it is better to begin with half a grain; the long interval between each dose is preferable to the exhibition of smaller doses at shorter intervals. There is no medicine that varies more in its strength than digitalis, which may be, and no doubt is, at times, productive of serious consequences; and this variety arises from the careless manner in which the plant is prepared; it is therefore of much importance that much care should be taken, in the gathering and drying of the leaves, that they be procured whilst their virtue is in the greatest activity, and that this be not destroyed by hasty drying, or by the fermentation of the leaves, when laid incautiously in a mass, which there is too much reason to believe is not an unfrequent occurrence. The directions given by Withering, for gathering and preparing this plant, should be rigidly followed*. It is best preserved in the leaves, only small quantities for immediate use being reduced to powder, and kept in a close-stopt phial. Some persons are in the habit of taking digitalis; it is a necessary caution to them, if they neglect it for a few days, not to begin again with the same augmented dose at which they omitted the medicine.

Nottingham, April 20, 1810.

II.

On Apparitions. By JOHN ALDERSON, M. D. Read to a Literary and Philosophical Society at Hull, Jan. 1. 1805.

> "Ea quæ rerum simulacra vocamus."
> LUCRETIUS.

"WHAT all the world says must be true," is an old adage, and, as all old sayings have their foundation in the experience of ages, I have always a disposition to believe them true. Now it is a general observation, amounting to an established fact, that in all countries whose history we have long been acquainted with, as well as in those to which the active and enterprising spirit of modern discovery has penetrated, that there has constantly been found a belief in apparitions. This general principle or faith, in the re-appearance of those who have departed this life, could not, in all cases, have arisen from the transmission of the poetic inventions of former times; because countries have been discovered, where we cannot suppose, or at least trace, an previous race of men, of superior intelligence, capable, like

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* Edinburgh Dispensatory, edit. 1803. See Digitalis.

Homer or Ossian, of transmitting, in never-dying strains, the records of antiquity; and with regard to the introduction of supernatural agency, in communicating or revealing knowledge to men, it behoves us, I think, to keep in mind an old maxim, "Nec Deus intersit nisi dignus vindice nodus:" Let us take care never to introduce the immediate agency of Providence, where natural operations can be found, sufficient to account for the effects. Nor ought we hastily to abandon our inquiries after such second causes, merely because we may be told that they are mysteries. At the same time, we have much cause to be thankful to the Almighty Governor of all things, when such circumstances and events dispose the wicked to turn from the error of their ways, as in the case of Colonel Gardiner; or to strengthen and encourage others in the way of well-doing, as in the instance of the truly respected, the Reverend Vincent Peronet.

Without referring to a tribe of authors for the proof of this universality of belief, I need only quote the authority of one of our most approved writers.

"I think," says Addison, "a person who is terrified with the imagination of ghosts and spectres, much more reasonable than one, who, contrary to the reports of all historians, sacred and profane, ancient and modern, and to the traditions of all nations, thinks the appearance of ghosts fabulous and groundless. Could not I give myself up to this general testimony of mankind, I should to the relations of particular persons, who are now living, and whom I cannot distrust in other matters of fact." In the paragraph which I have now quoted, you have not only a record of history, as to the universality of the belief, but the candid confession of a man of the first talents; of a man, who, in all his writings, shewed himself clear of prejudices, and earnest for the promulgation of truth; that he firmly believed in ghosts and apparitions, though he has not favoured us with any theory of their origin.

This, then, must be a subject worthy of our inquiries; and the histories which I shall now present for your consideration, will, I conceive, not only account for the universality of such an opinion, but, if I can make out my case, go to prove, that the belief in apparitions, ghosts, and spectres, is not only well-founded, but that these appearances are perfectly natural, that is, in the common course of nature; arising, as I hope to render probable, from secondary causes, and depending on circumstances to which all nations, all mankind, are equally liable; and therefore, that a general concurrence of opinion may, nay, must be as universal as the principle of population itself. I was called upon some time ago to visit Mr ———, who at that time kept a dram-shop. Having at different times attended, and thence knowing him very well, I was struck with something singular upon my first entrance. He went up stairs with me, but evidently hesitated occasionally as he went. When he got into his chamber, he expressed some apprehension, lest I should consider him as insane, and send him to the asylum at York, whether I had not long before sent one of his pot-companions. Whence all these apprehensions?—What is the matter with you?—Why do you look so full of terror? He then sat down, and gave me a history of his complaint.

About a week or ten days before, after drawing some liquor in his cellar for a girl, he desired her to take away the oysters which lay upon the floor, and which he supposed she had dropped;—the girl, thinking him drunk, laughed at him, and went out of the room.

He endeavoured to take them up himself, and to his great astonishment could find none.—He was then going out of the cellar, when at the door he saw a soldier, whose looks he did not like, attempting to enter the room in which he then was. He desired to know what he wanted there; and upon receiving no answer, but as he thought a menacing look, he sprung forward to seize the intruder, and to his no small surprise found it a phantom. The cold sweat hung upon his brow—he trembled in every limb. It was the dusk of the evening as he passed along the passage—the phantom flitted before his eyes—he attempted to follow it, resolutely determined to satisfy himself; but as it vanished, there appeared others, and some of them at a distance, and he exhausted himself by fruitless attempts to lay hold of them. He hastened to his family, with marks of terror and confusion; for though a man of the most undaunted resolution, he confessed to me that he never had before felt what it was to be completely terrified. During the whole of that night, he was constantly tormented with a variety of spectres, sometimes of people who had been long dead, and other times of friends who were living; and harrassed himself with continually getting out of bed, to ascertain whether the people he saw were real or not. Nor could he always distinguish who were and who were not real customers, as they came into the rooms in the day-time, so that his conduct became the subject of observation; and though it was for a time attributed to private drinking, it was at last suspected to arise from some other cause; and when I was sent for, the family were under the full conviction that he was insane, although they confessed, that, in everything else, except the foolish notion of seeing apparitions, he was perfectly rational and steady; and during the whole of the time that he was relating his case to me, and his mind was fully occupied, he felt the most gratifying relief, for in all that time he had not seen one apparition; and he was elated with pleasure indeed, when I told him I should not send him to York, for his was a complaint I could cure at home. But whilst I was writing a prescription, and had suffered him to be at rest, I saw him suddenly get up, and go with a hurried step to the door. What did you do that for?—he looked ashamed and mortified:—he had been so well whilst in conversation with me, that he could not believe that the soldier whom he saw enter the room was a phantom, and he got up to convince himself.

I need not here detail particularly the medical treatment adopted; but it may be as well just to state the circumstances which probably led to the complaint, and the principle of cure. Some time previously he had had a quarrel with a drunken soldier, who attempted, against his inclination, to enter his house at an unseasonable hour, and in the struggle to turn him out, the soldier drew his bayonet, and, having struck him across the temples, divided the temporal artery; in consequence of which he bled a very large quantity before a surgeon arrived, as there was no one who knew that, in such a case, simple compression with the finger, upon the spouting artery, would stop the effusion of blood. He had scarcely recovered from the effects of this loss of blood, when he undertook to accompany a friend in his walking-match against time, in which he went forty-two miles in nine hours. Elated with success, he spent the whole of the following day in drinking; but found himself, a short time afterwards, so much out of health, that he came to the resolution of abstaining altogether from liquor. It was in the course of the week following that abstinence from his usual habits, that he had the disease. It kept increasing for several days till I saw him, allowing him no time for rest. Never was he able to get rid of these shadows by night when in bed, nor by day when in motion; though he sometimes walked miles with that view, and at others got into a variety of company. He told me he suffered even bodily pain, from the severe lashing of a waggoner with his whip, who came every night to a particular corner of his bed, but who always disappeared when he jumped out of bed to retort, which he did several nights successively. The whole of this complaint was effectually removed by bleeding with leeches, and active purgatives. After the first employment of these means, he saw no more phantoms in the day-time, and after the second, only once saw his milk-man in his bed-room, between sleeping and waking. He has remained perfectly rational and well ever since, and can go out in the dark as well as ever, having received a perfect conviction of the nature of ghosts.

I was soon after called to visit Mrs B. a fine old lady about 80 years of age, whom I have frequently visited in fits of the gout. At a period when, from her general feelings, she rather expected the gout, she was seized with an unusual deafness, and great distension in the organs of digestion. From this time she was visited by several of her friends, whom she had not invited, and whom she at first so far considered as actually present, that she told them she was very sorry she could not hear them speak, nor keep up conversation with them: she would therefore order the card-table, and rang the bell for that purpose. Upon the entrance of the servant, the whole party disappeared—she could not help expressing her surprise to her maid that they should all go away so abruptly; but she could scarcely believe her when she told her that there had been nobody in the room. She was so ashamed, that she suffered, for many days and nights together, the intrusion of a variety of phantoms, and had some of her finest feelings wrought upon by the exhibition of friends long lost, and who only came to cheat her fancy, and revive sensations that time had almost obliterated. She determined, however, for a long time not to complain, and contented herself with merely ringing her bell, finding she could always get rid of the phantoms by the entrance of her maid, whenever they became distressing. It was not till some time after that she could bring herself to relate her distresses to me. She was all this time convinced of her own rationality, and so were those friends who really visited her; for they never could find any one circumstance in her conduct and conversation, to lead them to suspect her in the smallest degree deranged, though unwell. This complaint was entirely removed by cataplasms to the feet, and gentle purgatives; and terminated, a short time afterwards, in a regular slight fit of the gout. She has remained ever since, now somewhat more than a year, in the perfect enjoyment of her health and faculties.

A few months ago I visited Mr R., who was seized, in his passage from America, with a most excruciating headach. He obtained some temporary relief from the formation of matter under the scalp; swellings came on in the throat, and he had some difficulty of respiration when in bed. At this time, he complained to me that he had troublesome dreams, and that he seemed to dream whilst awake. In a short time after, he told me he had, for an hour or two, been convinced that he had seen his wife and family, when his right judgment told him that they were in America; and the impression was so strong a few nights afterwards, and the conversation he had with his son so very particular and important, that he could not help relating the whole to his friends in the morning, and requesting to know if his wife and son were not actually arrived from America, and at that time in the house. I was sent for to hold consultation, and he evidently saw that they all took him to be insane. He therefore immediately turned to me, and asked me, whether the complaint he then had would bring on the imagination of spectres, and apparitions, and figures; for he had always hitherto been an unbeliever in ghosts, and in everything else; he felt, and his friends likewise acknowledged, that he was perfectly sane, and strong in mind as ever he was in his life. Having satisfied him with the nature and extent of his complaint, and that it would soon vanish with his bodily sufferings, he and his friends were made easy in their minds; but the phantoms became at length more troublesome, so that he could not bear to go into his bedroom, where every picture brought with it the association, and conjured up the spirits of the departed, or introduced a train of unpleasant companions. He remained after this in a low room, and was for a time free from intruders; but in a bright brass lock he again saw his transatlantic friends, and never afterwards could he look to it but he saw them; and when I have been with him, and have purposely taken up a book, I have seen him hold conversation in his mind's eye with them; and I have momentarily known him consider me as hearing and seeing them too—I say momentarily, for he is a man of strong parts, and perfectly convinced of the nature of the complaint; for whenever I spoke, and he turned from the lock, he could converse on religion, physic, and politics, as well as ever. He then changed his house; the matter again formed under the scalp, and he is now in a state of convalescence, and totally free from such visitations.

These people are well at this time, and as capable as I am of relating all the circumstances; and now know that these were only phantoms; that they had no connection whatever with the persons they represented; and that their existence was only in their imaginations; but I am convinced, that had the diseases under which they laboured gone off after the first appearance of the phantoms, or had they been thus attacked only in the night; so terrified, so astonished, so convinced were they of their reality, (as ghosts I mean) that no power on earth would ever have altered their opinion. Nor could any one have satisfied them that it was a disease under which they themselves laboured; and thus they would have gone through life with the full persuasion of their having seen a ghost, in the common acceptation of the term. The long continuance of the complaint, the opportunities afforded both by day and night of ascertaining the nature of the appearances, and the full conviction produced from their entire expulsion by remedies, without any delusions, or mysticism, or magic, have dispelled every idea of their supernatural origin, and they no more believe in the common notion of ghosts than I do *.

Having made out the universality of the opinion of ghosts, I trust that I have established also the reality of such appearances, and have proved, from physical causes, how this notion has arisen, and thus satisfactorily proved, that the cause lies, not in the perturbed spirits of the departed, but in the diseased organization of the living.

The hallucination which these cases detail, may be distinguished from partial insanity, from delirium, somnambulism, and reverie, to which it bears some resemblance. In partial insanity, the patient, though sensible on most subjects, is generally intent on one particular train of thought; and whenever he has occasion to speak upon that, flies off into some absurd notion or other, and no argument whatever can drive him from his purpose. In delirium, the patient neither knows where he is nor what he does, except for a few moments, when violently roused. In somnambulism, there are certain voluntary motions performed, without our being sensible of volition. In reverie, the mind is so wholly absorbed in its own particular train of thoughts, that the patient takes no notice whatever of any thing around him.

But, in these cases, there is no point on which the patients can be said to be irrational; they merely state, that they perceive objects, where we know, and where they can very easily convince themselves, that they do not exist. When this circumstance occurs in the day-time, and more frequent opportunities for examination are afforded, they do convince themselves of their non-existence; and when, as I have said before, their own reason is assisted by the still more cultivated understanding of those

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* As it has only been my object to account for such apparitions as are enumerated, I have been at no pains to account for and explain the various delusions of the mischievous who have gone about to frighten their neighbours, like the Cock-lane ghost and others; nor those appearances which have been produced, sometimes purposely, sometimes accidentally, and which depend on mechanical and optical deceptions; such as the reflections of persons passing strong lights on a hill at a small distance, seen obliquely on the church windows, and which have the appearance of flitting ghosts within the church. They are all as easily explained as those I have mentioned; but they have been done so by others, and form no part of my plan.

those around them; and when there is no art, no attempt at imposition, the whole is clearly made to appear as mere delusion and *deceptio visus*, arising from a temporary disorder of the animal functions themselves, independent of the persons or bodies those figures represent. But what must have been the case in other circumstances? Suppose these phantoms had only appeared in the night?—suppose the physician had affected all the arts and tricks of the designing magician, or the crafty priest, how would it have been then?—Why, precisely what we set out with asserting:— they would have gone through life with a belief in the actual reappearance of the dead, as well as the capability of communicating with the spirits of their departed friends; and thus, they might have contributed their evidence to the vile impositions of those who have made a gain of the credulity of mankind, and who have, from interested motives, encouraged the fear of ghosts, the worship of demons, the belief of supernatural agency, which they could controul by their spells;—those who, like Owen Glendower, can call spirits from the vasty deep. Here, too, we may see how a Mahomet, a Swedenberg, a Jacob Behmen, have not only imposed on the world, but probably on themselves, the whole farrago of their celestial communications, and converse with superior beings; and it seems to me probable, that certain professors of this art may have the power of throwing themseleves into that state, in which they can bring before them those imaginary unsubstantial beings. This is no new opinion. If I remember right, it has been said of the Pythian priestess, and appears to me to be the case with the wizards of Kamschatka, and is probably the object of the whirling motion of the dervises, and of the serpent-eaters in Egypt.

The celebrated conjuror, or mystic mason, whom we had here some years ago, told me, he could give me a recipe for a preparation of antimony, sulphur, &c. which, when burnt in a confined room, would so affect the person shut up in it, that he would fancy he saw spectres and apparitions; and that, by throwing his voice into a particular part of the room, he could make him believe he was holding converse with spirits.

The common arguments, by which the belief in spirits has been combated, viz. that only one man at a time ever saw a ghost, therefore, the probability is, that there never was such a thing, though true, in fact, have never perhaps produced conviction, or ever had the effect of removing the fears, or shaking the belief of those who have only been transiently affected with the disease; because a mere denying of the fact, of which you have in *your own mind*, you think, positive evidence, cannot convince.

But even this argument has been controverted; and a case has been published by Mr Cumberland, from a paper or memorandum, found accidentally in an old manuscript, one hundred years old, in which it is asserted, that some men, who lay in bed, frightened out of their wits, confessed they saw what the distempered brain of the disordered person saw. I am sorry that a story, on such bad evidence, should have found credit for a moment, with so respectable a writer as the author of the Observer, for the general opinion of all ages is against it; and the evidence on which this case is related, ought never to have had any weight.

It has been said by Mr Locke, that ideas of goblins and sprights have really no more to do with darkness than light. This is certainly very just, as we have clearly seen by the foregoing relations, for the spectres appeared as well by day as night; and yet we know they are more generally connected. This I take to be owing, not merely, as Mr L. says, to the association of ideas, but to the circumstance that, during the night, many sources of information are cut off, by which the true nature of these appearances might be ascertained; besides, I have reason to believe, that slight degrees of the complaint more constantly occur in the night than in the day, and that these slight and transient attacks are those which have been most commonly handed down to us.

From what I have related, it will be seen why it should happen, that only one at a time ever could see a ghost; and here we may lament, that our celebrated poet, whose knowledge of nature is every Englishman's boast, had not known such cases, and their causes as those I have related; he would not then, perhaps, have made his ghosts visible and audible on the stage. Every expression, every look in Macbeth and Hamlet, is perfectly natural and consistent with men so agitated, and quite sufficient to convince us of what they suffer, see, and hear; but it must be evident, that the disease being confined solely to the individual, such objects must be seen and heard only by the individual. That men so circumstanced as Macbeth or Hamlet, Brutus, and Dion, should see phantoms, and hold converse with them, appears to me perfectly natural; and though the cases I have now related, owe their origin entirely to a disordered state of bodily organs, as may be evidently inferred by the history of their rise, and the result of their cure; yet, with the knowledge we have of the effects of mind on the body, we may be fairly led to conclude, that great mental anxiety, inordinate ambition, and guilt, may produce similar effects; nay, I am convinced, that if it were allowable for the physician to dive into the mental *uneasinesses* of his patient, many similar facts might be added. And I think, that I have known some who dared not have told all they have seen and felt. This very evening I saw a man labouring under what he called a nervous complaint; I made him shrink, when I told him I knew he sometimes imagined he saw people in his room whom he did not wish to see; he rather unwillingly confessed it, when his wife had withdrawn.

I have thus endeavoured to draw your attention to a subject not yet sufficiently investigated by the learned; and the cases which I have now adduced, when they shall have passed the ordeal of your examination, and been commented on by your observations, will, I trust, have some effect in elucidating the operations of the human mind, and of explaining, from natural causes, what has hitherto, when believed, been attributed to supernatural agency.

III.

An Account of the Epidemic Dysentery which prevailed among the Dutch troops at the Cape of Good Hope, in 1804 *and* 1805; *with Remarks on the use of Calomel in the treatment of this Disease.* By Dr HENRY LICHTENSTEIN of Helmstadt *.

THE Governor of the Cape having been informed that an expedition against that colony had been prepared in England, collected all his troops, amounting to about two thousand five hundred men, towards the end of September 1804, in a camp, from whence he could readily lead them to all the points where an attack was practicable. This camp was stationed to the eastward of a mountain, in a sandy plain, to which it was requisite to fetch all the water from a considerable distance: it was also exposed to the concentrated rays of a burning African sun, from its rising till within an hour of its setting, from which the soldiers, overcome with the heat, and oppressed with fatigue from their necessary exercises, had no other shelter than their tents. Yet no sooner had the sun disappeared below the horizon, than the sea-breezes, of which not a breath had previously agitated the heated atmosphere, immediately swept off as it were the heat of the plain; so that the thermometer (of Fahrenheit) which was sometimes elevated during the day to 90°, would at once fall 25 or 30 degrees. Here was obviously sufficient cause of disease: and before the end of October 1804, dysentery shewed itself in the army, which in other respects was well ordered and supplied. About the same time an epidemic catarrhal fever appeared among the men, which affected both the abdominal viscera and the organs of respiration, and which, as it originated from the same causes as the dysentery, differed only by the absence of the intestinal flux. At the end of December, four hundred and eighty-eight men had been attacked by these two diseases, of whom ninety-one had died. The camp was then removed to the vineyards, nearer the mountain, and behind a wood which sheltered it from the wind. This removal, together with the favourable change of season, produced a considerable diminution of the number of the sick: for during the first three months of the year 1805, only a hundred and forty-nine were received into the hospital; and, thanks to the new mode of treatment from that time adopted, only fifteen of this number died. The distressful sequelæ of the disease proved fatal to twenty seven of those who were attacked before the beginning of 1805; so that of six hundred and thirty-seven patients, one hundred and thirty-three died,—a proportion somewhat more than one in five. By the end of March the epidemic had ceased, and the only patients then in the hospital were those that had suffered relapses, or who, having never completely recovered from the effects of the first attack, experienced various secondary disorders, which were protracted to the month of May, in the curable cases, and which, in the others, after much lingering, terminated in death.

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* *See Bibliotheque* Medicale, ou Recueil Periodique, &c. Tom. xxiv. No. 70. *Avril 1809, p. 92.*

The author of this memoir, then chief surgeon of the battalion of Hottentot light infantry, was not ignorant that epidemic dysentery is also the scourge of camps in Europe, where it is distinguished, according to the variety of its forms, into catarrhal, bilious, nervous, &c. Nevertheless he observed, in that which he has described, some differences which appear to belong to the dysentery of hot climates; whence he imagines that his account of it may not be devoid of utility.

The dysentery commonly began its attack suddenly, but with so much seeming mildness, that the majority of those affected paid little attention to it during the first two or three days; their dejections were unaccompanied by tenesmus, were almost without griping, and consisted of slime, mixed with some streaks of blood, and with feces of a natural consistence. The only symptoms then observed were the discharge of two or three stools a-day, a dull pain in the head, some general uneasiness, and a sense of weight and obtuse pain in the abdominal viscera. On the third day tenesmus supervened, with a frequent discharge of bloody stools, acute shooting pains in the bowels, and more fixed pains in the hypochondria, about the præcordia, and round the umbilicus. A white or brown fur appeared on the tongue, while its edges remained clean: and the breath presented a peculiar fetor, which might be considered as a true diagnostic symptom. On the fourth or fifth day, the fever became considerable, the pulse being about 90 or 100 in a minute, full and strong; the appetite was gone; no sleep; extreme thirst; the skin dry and very hot; the urine high-coloured, turbid, and passed with pain. These symptoms progressively increased in violence; and, together with more pungent pains in the hypochondria, there soon occurred also a hardness and tympanitic distension of the abdomen, which became tender to the touch. The surface then became covered with a clammy sweat, more particularly the face; the pulse became more frequent and small; the alvine discharges more numerous and scanty, of a pale red colour, and consisting only of dissolved blood, without any intermixture of feculent matter; the tenesmus was excessive; suppression of urine ensued, with difficulty of swallowing, and vomiting of a matter, which in the end became black. It was an unfavourable symptom, when the tongue lost its fur, and assumed a red appearance, as if smeared with blood, and exhibited a shining surface as if it had been varnished. As death approached, which commonly took place between the ninth and the fifteenth day, it was preceded by a trembling, unequal, and almost imperceptible pulse; by cold sweats and cold extremities; the lips and teeth were covered by a black mucus; a soporose state ensued, with the eyes half opened; prolapsus of the anus; involuntary excretions, unperceived by the patient; hiccup; subsultus tendinum; and a total cessation of pain.

The catarrhal bilious fever, which made its appearance at the same time with the dysentery, differed from the latter only by the absence of the bloody diarrhœa; for the patients equally complained of an obtuse pain of the epigastrium and hypochondria, which was increased by the respiration, and which extended from the loins to the right shoulder; it was indeed one of the leading symptoms. These pains were succeeded by fever, which afterwards put on the typhoid character; it was less dangerous, however, than the dysentery, notwithstanding its complication with some violent affections of the chest, such as stitches in the side, cough, and difficulty of breathing, which often remained a long time as sequelæ of the disease.

The method of treatment was adapted to the obvious causes of these two diseases, and consisted, in the first period, in the administration of infusions of the roots of valerian, and arnica, and of the simarouba bark; to these were added the acetate of ammonia, antimonials, camphor, opium, &c. according to the different indications which circumstances suggested. With a view to fulfil the local indications, salep, gum arabic, and other mucilaginous substances were employed; glysters with opium were injected; emollient cataplasms were applied to the abdomen, as well as volatile antispasmodic liniments, and the warm bath was used as far as it was possible. The diet was restricted to light and mucilaginous articles, consisting of broths, wine, and aromatic decoctions; for every thing that was required was supplied in great abundance and of good quality by the government.

The increasing severity of the fever and of the other symptoms appeared to the author to demand a more active treatment in the second stage of the disease; and the doses of diffusible stimulants were consequently augmented, while those of the more durable ones were gradually proportioned to the danger; such as the apozems of cinchona, strengthened by mixing with them the extract of the same bark; colombo root, lichen islandicus, with canella, the ethers, camphor, serpentaria, musk, wine, opium; rubefacients applied to the abdomen, and varied according to the different indications, so as to produce the most complete excitement. It is an error in some physicians to recur to astringents, such as alum, catechu, &c.

At the end of November five or six patients died every day, and every day the camp sent more than double that number to the hospitals of the town. Of the whole of those who had been attacked within two months from this time, scarcely ten were in a condition to resume their duty: and all the rest who had escaped death, and survived to the fifteenth or twentieth day of the disease, remained, after the cessation of the dysentery, as ill as before: the fever, becoming less violent, put on a slow and hectic character; instead of recovering his strength, the patient became more and more debilitated, suffering a constant chronic diarrhœa or lientery, with a hard, tumid, tense, and painful abdomen. When these last-mentioned symptoms ceased suddenly, they were followed by rigors, cold sweats, and all the symptoms of internal suppuration, which were only terminated by death. Thus the secondary affection was equally detrimental with the original disease. Several of those who had been sent back to camp as cured, returned to the hospital with this secondary complaint, too far advanced to admit of relief: and others returned with relapses of the dysentery, or of typhus, so violent as to defy all the resources of art, and to cut off the patients in a few days.

Matters became every day more critical, especially as the fear of an attack from the English had not ceased; and the attention of the government to the state of the sick became more necessary, because the practitioners of Cape Town had circulated very generally a report, that the soldiers were dying victims of an obstinate adherence to the Brunonian system. In consequence of this report, Dr Dibbetz, Director of Hospitals and one of the Board of Health, (du service de santé) assembled all the practitioners of the Cape, who, with the exception of some respectable old surgeons, agreed in recommending emetics as the proper remedy against the epidemic; i. e. first to cleanse the *primæ viæ* by means of ipecacuanha and rhubarb conjoined, and afterwards to restore the tone of the parts by means of corroborants and astringents. Others were disposed to agree with the African colonists, and to confide in the slender domestic remedies of the apothecary of the Hottentots; such as the *viscum Capeuse* (an astringent and slightly styptic plant) the root of bryony, the mucilaginous and bitter seeds of a species of *rumex*, and even the root of a very drastic vegetable, used by the peasantry, and known to botanists by the name of *vitis vitiginea.* As the epidemic was not prevalent in the town, and only occurred sporadically among the country people near it, the partisans of these methods of practice (which were carefully refrained from in the hospitals,) had no opportunity of ascertaining their respective advantages. However, a young officer, who had conceived a prejudice against the Brunonian doctrine, quitted his surgeon-major, and put himself under the care of the opponents of this doctrine; but he payed for the experiment with his life. The attempt to combine all the methods in one formula, by including crabs-eyes, alum, rhubarb, ipecacuanha, and opium, was also unsuccessful. "But if," says the author, "it were a misfortune for the patients, it was nevertheless an advantage to maintain the reputation of medical science."

Affairs were thus circumstanced at the beginning of December, when the Surgeon-major Heppener, first physician to the military hospital, being taken ill, his post was filled by Dr de Zinkgraaf, of Francfort on the Maine, who was at that time surgeon-major of the fifth battalion of artillery at the Cape. The disease had made so great and fatal a progress, that, after witnessing the relapses, the secondary disorders, the dissections of bodies, which had so often shewn the existence of suppuration and induration of the liver, he could not be ignorant that the true origin of the epidemic was an inflammation in that viscus, or an *hepatitis*. Although several practitioners had already supposed, from the frequent concurrence of jaundice with the dysenteric symptoms, that the disease was connected with derangement of the circulation in the system of the *vena portæ*; yet no one had proposed any method of treatment founded upon this supposition. Dr Lind alone had observed, in his description of the diseases of hot climates, that in India calomel is administered with advantage in dysentery. But although a practitioner of the Cape had also given his verbal testimony in favour of the correctness of this fact, mentioned in general terms by Lind, it was rather from an observation of the phenomena discovered by dissection in those who died of the disease, than from those data, that Dr Zinkgraaf was led to introduce the use of mercurials, which, from their well-known relaxing and dissolving properties, would seem *à priori* likely to augment the flux of blood.

In consequence of the distance of the camp, and the uncertainty of the early symptoms, it happened that the patients were scarcely ever received into the hospital until the second day of the disease. From the moment of their arrival, a quarter or a third of a grain of calomel was now administered every hour, with the same quantity of opium, and some mucilage or sugar; and in the intervals an infusion of valerian or of chamomile, with the addition of opium, ether, mucilages, &c. was given. At the onset, and during the increase of the fever, the excitement was insensibly modified and regulated, and the doses of calomel were increased in proportion, being sometimes given to the extent of seven or eight grains a-day. This practice was continued, according to circumstances, for two, three, or even four days, at the end of which time the calomel was omitted, when the fever and other symptoms were alleviated; but, in case no amendment was observed, the use of this medicine was protracted to the sixth or seventh day; after which period, musk, camphor, and other diffusible stimulants were substituted for it. It was constantly observed, that the crises were accelerated and facilitated by the calomel; they generally occurred on the ninth or eleventh day, and were marked by the cessation of the local uneasiness, as well as by evacuations truly critical, from which the patients experienced extreme relief. At first, the calomel was administered with timidity, from the fear of exciting salivation; but farther experience occasioned a greater boldness, when it was ascertained that the crises were as effectually accomplished by the salivation, or by a mucous discharge from the bronchiæ, as by the stools, which last were copious, of a pultaceous consistence, black, and of a cadaverous odour. During the salivation, astringent gargles, containing the vegetable acids, or borax, and oxymel, were employed with success.

When the calomel was exhibited at a more advanced period of the disease, the result was less advantageous. Although it was still of unquestionable utility, whether taken internally, or used by means of friction on the hypochondria, in conjunction with the warm bath; yet it is certain, that it did not prevent the disorder from terminating fatally in several patients, who were brought to the hospital in the height of the fever, five or six days after the commencement of the attack; some of whom died from the violence of the disease itself, and others from the secondary affection which ensued. On the contrary, however, every individual recovered, to whom the calomel had been given on the first or second day of the disease, although a very small number also suffered a short time from the secondary complaints.

The sequelæ of the disease were principally the three following: suppuration of the liver, induration of that viscus, and a chronic diarrhœa.

It was to be suspected, that the inflammation had passed on to suppuration, when, after the patient was apparently well, and at about the end of three weeks, the pains in the region of the liver still continued; when they thenceforth insensibly diminished, and in the same proportion a sense of weight was felt, especially in the right side, and shooting pains occurred along the shoulder-blade. The matter was still more decided, if, at the same time, a new but slight fever came on, attended with frequent rigors, night-sweats, and a slight disorder of the chest; in a word, a hectic fever. In some instances, a circumscribed tumor of the liver could be distinguished externally, at first affected with darting pains, and afterwards afforded manifest evidence of fluctuation. This suppuration of the liver occurred almost exclusively in the patients who were attacked during the first two months of the epidemic, and particularly in those in whom the dysentery had been stopped by astringents. All medicines were inefficacious in this state of disease. If the abscess opened into the abdomen, a speedy death ensued, and the same result occurred in those very rare cases, in which the abscess was combined with vomica, and, by erosion of the diaphragm, opened into the lungs, giving rise to a purulent phthisis.

In the small number of cases, in which a fluctuation in the tumor could be ascertained externally, an incision was made into the abscess, from which about three pints of laudable pus was at first discharged, and afterwards about a pint at each dressing, morning and evening. Nevertheless, one patient only was saved by this practice; all the rest were too much reduced to recover their strength, and sunk under the hectic fever, a few days after the operation.

The induration of the liver was less unmanageable by art; for mercury, and particularly calomel, employed internally and externally, was an efficacious remedy for this affection. This medicine was administered in the quantity of from eight to ten grains in the twenty-four hours, for several days in succession, until a salivation was obtained, which was essential to the cure; and when it was established, the dose of the calomel was gradually diminished. Opium was combined with the calomel, as an adjuvant, and when the complaint was connected with affection of the chest, the employment of camphor, senega, gum ammoniac, myrrh, antimonials, the warm bath, rubefacients, volatile frictions, gargles, apozems of squill, lichen islandicus, liquor anodynus, serpentaria, &c. were also resorted to. Although the patients were a great length of time in recovering their health, its establishment was ultimately, however, almost always complete; and when it was imperfect, there remained rather a chronic debility of the alimentary canal, than any actual disorder of the liver. In a few instances, when the induration of the liver was exceedingly obstinate, and no salivation could be excited, even by administering calomel to the extent of twelve grains in the day, the patients were cut off by a slow fever, or obtained but a partial relief, still labouring under an habitual disease. This, in several of the patients, consisted of a circumscribed tumor, obvious to the touch, and the compression of which occasioned an obtuse pain. In one patient, a moveable tumor remained on the right side of the lumbar vertebræ, which did not prevent the re-establishment of his health.

The secondary diarrhœa, which was in some cases only a watery discharge, but frequently bloody, occurred chiefly in those who, after their recovery, incautiously exposed themselves to the exciting causes. It took place without gripes, fever, or loss of appetite; but it gradually undermined the strength of the patient, and after ceasing and returning periodically for eight days, or a fortnight together, it became at length habitual. The means employed to combat it were the following: absorbents, mucilages, opium in syrup, with sulphur auratum antimonii, factitious cinnabar in small doses, colombo root, catechu in the dose of ten grains every hour, conjoined with opium and gum arabic, friction with volatiles, astringent and corroborant glysters. These medicines were varied according to the concomitant affections of the chest and other parts.

The appearances discovered by dissection, shewed the true nature of disease, presenting in every case marks of inflammation; such as congestion of the blood vessels, swelling of parts, changes of their colour and texture, effusions of coagulable lymph, false membranes, adhesions of the viscera, intus-susceptions, partial gangrene, suppurations, &c. In some of the individuals, who had died in the early stage of the catarrhal fever, the inflammation extended from the diaphragm to the lungs and bronchiæ. The liver was frequently found adhering to all the neighbouring parts, and also displacing the intestines by its great increase of bulk; sometimes it was studded with pustules on its surface, and, in its internal substance, contained a thick, dark-yellow pus, which was extremely fetid in some of the subjects. In one case, eleven pounds of pus were found in the liver; and in another, this viscus not only adhered to the peritonæum and diaphragm, but was so much increased in volume as to extend to the ilium; in this case, an abscess was found occupying both the liver and the right lung, and containing four pounds of pus. In a third case, in which death occurred six days after the operation of incision, it was found that the pus had also made its way internally, and had produced disorganization in the right kidney, which was contained in a sac, formed by adhesions. In two other subjects, a hard concretion, formed of layers like an onion, and of about the same size, was found in the substance of the liver.

The patients, who died before the ninth day, retained their senses perfect, and had no delirium. Although the disease generally made its attack suddenly, and without any previous indisposition; it was sometimes preceded for six or eight days by slight pains of the bowels, disturbed sleep, and a feeling of oppression. Some of the patients, among whom was the author, were affected with petechiæ before the fever came on, which afterwards disappeared during its course.

None of the European troops suffered so severely from this epidemic, as the fourth battalion, consisting chiefly of Germans, many of whom had suffered an intermittent fever, some years before, when in garrison in Zealand; nearly one third of the sick belonged to this corps. The other battalions, which were composed of men of various nations, but principally of Poles, suffered much less. Scarcely any of the cavalry were affected with the epidemic; having better pay, their fare was more nutritious; their exercises, besides, were less fatiguing; they were employed in dressing their horses at the very time when the chill of the evening came on; and they were possessed of cloaks, which the infantry had not. The volunteer cavalry, consisting of robust colonists, inured to fatigue by their labours in the field, likewise suffered little. But, what is remarkable, the Hottentots, a sort of savages, accustomed to the climate, suffered much in the army, although better clothed, better fed, and more cleanly, than in their agricultural occupations; while those, who remained in the employment of the colonists, exposed to all the unwholesome weather, undergoing much fatigue, and being badly fed, were much less affected by the epidemic.

IV.

Case of Herpes Exedens Vermiculatus. By A. B. GRENVILLE, M. D. Surgeon to his Majesty's Sloop Arachne.

18th October.—D. YORKSTON, aged 19, a stout, middle-sized, and unpolished Highlander, with red hair, offered this day to my inspection a very curious gregarious ulceration. An increasing quantity of small sores, whose edges are elevated and fungous, discharging a pellucid, yellowish, thin, acrid pus, surrounded by erysipelatous inflammation, extends itself from around the *anus* to the most prominent part of both the glutei maximi. This eruption (as we are seldom fortunate enough to trace the beginning of any disease in the navy,) appears to be of some date; and the young man himself says that he has been annoyed by it for these ten days past, and that he has frequently applied, for the relief of a smart itching, his untrimmed nails to the affected parts, and has felt acute pains when sitting. No appearance of either scrofulous or scorbutic habit in him, nay, robust health is depicted on his countenance. Is this the effect of repeated friction from the woollen dress? Is it caused by uncleanliness, or decreased cuticular absorption? Or is it the mere fruit of sympathetic predisposition? The character of the ulcers refute any revolting suspicions, though they present an obstinate association.

Let the parts be well washed (bis in die) with warm water, strongly impregnated with soap, and a light pledget applied, over which a thick compress, imbibed with a solution of sulphate of zinc, is to be laid, and secured by proper bandages. Abstinence of spirituous liquors.

19th.—Repet. ablutio atque applicatio.

20*th.*—The edges of the different sores are come to mutual contact. Repet. applicatio.

21*st.*—No apparent alteration. Differetur ablutio; continuetur externa curatio.

22*d*, 23*d*, 24*th.*—The aspect of the ulcerated surface is alarming to-day; it now spreads towards the *perinæum*, where the fungous excrescences are very extensive; an ichorous sanies, as if from the central points of each sore, is continually oozing and excavating new furrows through the fleshy ridges that surround them. I am completely perplexed, and cannot account for the cause of so uncommon and disgusting an eruption.

25*th.*—The very extraordinary character of the disease, and the corrosive acrimony of the pus discharged from the innumerable sores, led me first to suppose, that the eruption might be communicated by inoculation, consequently the following experiment took place: I dipt the point of a lancet into the overflowing pus of one of the ulcers, and having raised the cuticle on the inside of the thigh, two inches above the superior edge of the sartorius, I introduced, and there lodged the matter.

26*th.*—An inflammed areola surrounds the inoculated spot; pulse 98; nausea and restlessness.

27*th.*—The areola is dilated to an inch diameter.

28*th.*—Same state as yesterday; pulse 100; with thirst; erythematic circle more extensive.

29*th.*—A number of red papulæ appear around the inoculated part.

30*th* and 31*st.*—The eruption has now assumed the identic character of that occupying the *glutei* and *perinæum*, with abundant discharge of sanies. What can impart a contagious quality to this pus? Is this one of the cutaneous diseases produced by animalculæ? This suggestion insensibly directed my hands towards an excellent compound microscope; and I proceeded, more through curiosity than any determined expectation, to examine two drops of the pus, placed on a slip of glass, illuminated by the solar rays reflected from the subjacent mirror. Some might very likely have foretold the result; I was, however, surprised, and with disgust, in discovering a swarm of insects, of various length and size, and differently agitated.

Though the uninterrupted and swift motions of these *animalculæ* left no room to suspect a delusion of the visionary organs; yet, having ranged myself on the sceptic side in microscopical discoveries, I resolved to have recourse to more confirming trials. In a small tube of thin white glass, I introduced three large *drops of pus*, and a proportion of sulphuric acid; a dark reddish-*coloured mixture* was the result. This, examined with the microscope,

croscope, appeared a turbid fluid, on the surface of which, myriads of straight, whitish, slender filaments were discernible, without motion Water was then added to the mixture; it became gradually clear, and a white flaky precipitate was to be seen at the bottom. This again, subjected to microscopical observation, offered nearly the same appearance; and having decanted the liquid, after a gentle agitation, the same *animalculæ* were distinctly to be seen lying lifeless on its surface.

The cause of this scabies being now plausibly discovered, the therapeutic indication readily occurred to my mind. The sores were washed with diluted nitrous acid, for three consecutive mornings, and cerate applied, to defend them from external irritation. On the first of November they were anointed with ung. hydrarg. with which the cure of both the *original* and *artificial* eruption was finally obtained, within the space of another week. No allowance of spirits or wine was granted to the patient during his illness; and though entirely local, I frequently administered sweet acidulated beverages, and a grain of opium at night to facilitate rest.

How these troublesome little worms found their way to that part of the body, or rather, what can have generated them, it is not my intention here to investigate or discuss. The change of diet, manners, and habits, attended with hardships, fatigue, and depression of spirits, might perhaps suggest to us the remote cause, while the *filth*, so peculiarly characteristic of a newly-pressed seamen, would furnish us with the immediate exciting power.

Jamaica,
Dec. 25*th* 1809.

V.

Reply to Mr Goodlad's Observations on Mr Barlow's Theory "On the Origin of Urinary Calculi." By JAMES BARLOW, Surgeon.

WHEN the interests of society, and welfare of individuals, become the subject of discussion amongst professional men; and when such discussion is conducted with moderation and candour, it is frequently productive of general good; but, on the other hand, when a writer emerges, as it were, from obscurity, and assumes the character of critic, it may be necessary to inquire who such writer is, and how far his criticisms appear tenable, when compared with the opinions he has taken the liberty of animadverting on? It is by this test I purpose appreciating the merit of Mr Goodlad's observations, which he has made in your last number, on a communication written by me, and inserted in the 17th number of the Edinburgh Medical and Surgical Journal, respecting calculous complaints, and the average of success attendant on the operation of lithotomy; and not having knowingly or intentionally advanced any opinions therein, either unphilosophical or erroneous, silence on my part would have the appearance of conviction, however averse I may be to controversy.

That Mr Goodlad may have no pretence of alleging, that I do his arguments injustice by misrepresentation, I shall quote them pretty fully, in order that the reader may form a more correct opinion of the relative excellency of his mode of reasoning.

Mr Goodlad, in his preliminary criticisms, accuses me of inattention, in not having investigated the component parts of urinary calculi. "Indeed, their component parts (says Mr G.) appear to have escaped Mr Barlow's attention; but it must be acknowledged by all, that they form the first link in the chain of any inquiry into the origin of these complaints." To which I reply, that if Mr Goodlad will refer to page 198 of the 14th number of the Edinburgh Journal, he will perceive that the queries there stated, which excited my answer in a subsequent number, comprised no such chemical allusion; and any attempts to analyze calculous concretion would have appeared quite irrelative to the question.

After observing that your readers are "under some obligations for Mr Barlow's statements of their frequency in his practice," Mr Goodlad remarks, that "not more than an average of two patients were annually operated upon, in the Manchester Infirmary, during the time I attended the practice of that hospital; a proportion much less than has occurred in the neighbourhood of Blackburn, the comparative number of inhabitants considered;" from which Mr G. draws this conclusion, that "this difference will convince Mr Barlow of a probable fallacy in positively asserting, that these cases will not be more frequently found in one county than another." Had Mr Goodlad fortunately furnished us with the number of stone patients, operated on in the Manchester Infirmary, or in any given district of country, during the last seven years, or even informed us how long he was pupil to that hospital, then by such criterion, a more accurate ratio would have been ascertained; and had such investigation corroborated with Mr Goodlad's present statement, I might have been induced to acquiesce with his conclusion; but since Mr G. has been defective in this particular, it leads me to entertain the same opinion I have elsewhere advanced, and which paragraph I will quote in this place, in order, if possible, to reconcile these seemingly discordant opinions. "The popular opinion of this complaint being endemic, may, I conceive, arise from the circumstance of some resident surgeon having gained celebrity in this particular branch of chirurgery, which induces those who are afflicted with this malady, to apply for relief, when otherwise they would, in all human probability, have died without having the stone extracted, or even the disease discovered, by those less competent to undertake the operation." This sentiment is farther corroborated by the information which I have lately obtained; for, on inquiry, I have not been able to learn, that the operation of lithotomy has been performed oftener than once or twice, by any other surgeon than myself in this town and neighbourhood, within the memory of any person with whom I have conversed on the subject; nevertheless, several cases of calculous affections have occurred to my knowledge, within the period of the last twenty years, which have proved fatal, probably by not submitting to the operation *.

Mr Goodlad says, "I am sufficiently authorized, by analogy, to assert, that the food taken into the system will have a great effect on their production, and that this will form a principal desideratum, acting, not only in different districts, but in the different stations of life in the same district." In support of this opinion, Mr G. adduces the theory of Dr Rollo on diabetes. What affinity these two diseases (diabetes and calculous affections) have with each other, I am at a loss to conjecture; if Mr Goodlad had brought forward, either from his own practice or that of Dr Rollo, any instances of diabetic patients being afflicted with calculi, then such analogical reasoning might have been admitted; but Mr G. advances a step farther, and adds, "The testimony of other physicians might also be adduced to shew the power which particular diet possesses over their actions; and as the manufacturing poor, in Lancashire, live more on vegetable matter than in most other counties in England, may not this

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* Since the publication of the statement of stone cases, in the Seventeenth number of this Journal, I have to record another successful one; the patient was a boy, of not more than two years and three months old, from whom I extracted a stone of considerable size.

this be one reason that calculous cases are less frequent there, than where the labouring poor eat a larger proportion of animal food?—this is the case in all, or the generality of agricultural counties, and, I conclude, in Norfolk." It is to be lamented that Mr Goodlad has omitted bringing forward the testimony of those physicians which he alludes to particularly; if it goes so far as to shew clearly, not only the power which particular diet possesses over the assimilating organs, but also the effect produced; and whether calculi be absolutely caused more by one kind of diet than another; and in what different districts of country, and stations of life, such modes of living render the disease more or less frequent; because such proof, well-authenticated, would go a great way towards solving the question in agitation *. Nor can I by any means assent to the conclusion, drawn by Mr Goodlad in the latter part of the paragraph above quoted, because it is by no means proved by Mr G., either from his own, or the testimony of any writer, with whose works I am acquainted, that the manufacturing poor in Lancashire live more on vegetable matter than in most other counties in England, or, that calculous cases are less frequent than in all, or the generality, of agricultural counties." Mr Goodlad then proceeds with his analogical reasoning, or rather analogically concluding, that since the time of Sydenham, considerable alteration has taken place in the physical constitution of man; "attributable, in a great degree, to the different customs at different periods of society." He attempts to explain why diabetes, which was to him extremely rare, should now be so frequent in its occurrence; and he adds, that "on accurate inquiry being made, calculous affections have undergone a proportionate decrease †." By whom this accurate inquiry has been made, or where this assertion is illustrated, I am at a loss to know, for he has unfortunately left us to depend on mere conjecture. Mr Goodlad seems wishful to establish the theory, that animal food has the power of generating calculi; but which, on a strict inquiry will, I am led to believe, prove fallacious, seeing that graminivorous animals are not exempt from calculous affections of the bladder; and, before Mr Goodlad had drawn this hasty conclusion, it would have been more philosophical in him to have furnished

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* See Dr Lister's Journey to Paris.

† Were I to attempt to form an estimate, from my own practice, of the comparative frequency of occurrence of these two diseases (diabetes and calculous affections), I should be strongly inclined to draw a conclusion quite the reverse of that of Mr Goodlad.

nished such proof, by the comparative result of calculi, found in the bladder of both herbivorous and carnivorous animals ; such an estimate, faithfully related, though on brutes, would tend much to illustrate and adjust this difference of opinion *.

I will now pass over a part of Mr Goodlad's reasoning, and hasten to some observations, which appear more immediately connected with the question at issue. Mr G. thus proceeds, by doubting the existence of the excretory ducts of glands penetrating the internal tunic of the bladder †, and " inquires with more than common curiosity, with a desire to be instructed, where these excretory ducts are to be found. Now I will gratify Mr Goodlad's uncommon curiosity, by referring him to his own words, wherein he evidently acknowledges the existence of secreted mucus in the bladder, and thus expressly asserts " which (secretions) are secreted from the inner surface of the bladder." In another place he adds, " and it (the bladder) is defended by (so far from the urine possessing chemical affinity with) the mucus secreted from its inner coat." If this mucus, described by Mr Goodlad, be not secreted by the muciparous glands of the bladder, I should be glad to be informed from whence, or in what class of vessels it originates ; and as Mr Goodlad seems to doubt either his own or my anatomical knowledge of the parts, I will endeavour to put him in a more unquestionable way of inquiry, by referring him to the anatomical works of Leber, Winslow, Haller, Parsons, Drake, Heister, Bromfield, and Hooper. It is truly pitiable to observe, in Mr Goodlad's observations, such a strange propensity to corrupt my meaning ; an instance of which I will produce, as a proof of what I have asserted : " Till now, (says he) I have never considered the bladder as one amongst the many glands, found in the body." Such an assertion, however sophistically or sarcastically brought forwards, cannot command my assent ; however, if Mr Goodlad be sincere, and believe that the bladder is in reality an organ, wholly destined for the purpose of secretion, he then certainly deserves commiseration for his ignorance ; but on the other hand, if his assertion be merely sarcastical, then his presumption merits only contempt. Utrum horum mavis, accipe.

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* Morgagni relates several examples of calculous concretions being found in the bladders of different animals, such as dogs, swine, oxen, cows, &c. In Saumarez's Physiology, we are informed of a perfect calculus being found in the bladder of a fœtus, of the size of a small filbert. See also Earle on the Stone, and Blumenbach's Comparative Anatomy by Lawrence.

† Boerhaave expressly says, that there are instances where eight ounces of this mucus has been evacuated from the bladder in one day.

"But (proceeds Mr G.) to return to our question, if stimuli applied to the urinary organs, were equal to the production of a calculus, no one would venture to give cantharides, or apply a blister, lest it should produce strangury, a superabundant secretion of mucus, and calculus." Admitting, with Dr Cullen, that cantharides, when either taken internally, or applied externally on the body, acts as a stimulant, and becomes, in a concentrated manner, united with only a portion of the urine, when carried from the kidnies to the neck of the bladder, and thus produces a frequent propensity to the voiding of urine called strangury, this specific or spasmodic constriction of the neck of the bladder, occasioned by cantharides, either when absorbed by the skin from the application of a blister, or introduced into the stomach in the form of medicine, and conveyed into the mass of blood, will, I conceive, seldom excite that degree of stimulus on the bladder, when free from disease, sufficient to produce a superabundance of mucus on the inner surface or tunic of that viscus, or in any way, either directly or indirectly, be the primary cause of calculus; hence Mr Goodlad may be enabled to discriminate betwixt a healthy stimulus, and that degree of excitability which is productive of inflammation and disease; and, by keeping this general law of the animal economy in view, that the more any organ of the living system is excited to action, beyond its due limits, the more it becomes exposed to disease, Mr Goodlad may hereafter, with impunity, venture either to apply a blister externally, or administer cantharides internally, without the inordinate fear of the production of calculus.

Mr Goodlad endeavours to illustrate the circumstance of an extraneous body being lodged in the bladder, and becoming the nucleus of a calculus, by the process of crystallization, in the manufacturing of copperas; and concludes by saying, that "the formation of calculi, around a bougie, might be aptly compared to this process, and like it, is independent of stimulating the bladder." If Mr Goodlad will, on reflection, take upon him to say, that a bougie or other extraneous substance, can be introduced into this viscus, and remain there for a given time, without stimulating that organ, I must urge Mr Goodlad to try the experiment on himself, and I will venture to say he will have reason to retract his opinion *.

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* Dessault says, that instances have occurred, where clots of blood, and inspissated mucus have formed the nucleus of calculi.

The last sentence of Mr Goodlad's which I shall notice, is this: "But I need not inform him (Mr Barlow) that fœtal life consists only in the formation and expansion of those organs, the action or exercise of which is afterwards to form real life." This quotation certainly wears such a shade of ambiguity, that I am precluded from drawing any accurate inference from it. Notwithstanding, if Mr Goodlad's physiological notions of fœtal life be such as to directly contradict my assertion, that "children may be sometimes born with the disease," or go so far as to believe, that the fœtus in utero possesses no organic actions, but such as are necessary to form real life after birth, I must declare my dissent from such an opinion: for the developement of fœtal life during gestation is such, that frequently an undue proportion of action takes place, which proves not wholly and essentially necessary to form real life. Such I take to be the case in *lusus naturæ*, and the productions of that class of monsters which consist of superfluous parts; and to carry this analogical reasoning a step farther, it may not be quite unphilosophical to say, that predisposition to disease likewise originates during utero-gestation, probably occasioned by the component parts of the fœtal system not being primarily and suitably adapted to the vital principle. This hereditary and mutilated impression engraved on the fœtus, is in some degree exemplified in the resemblance which subsists betwixt parent and child. Such is the coincidence of organization which participates so nearly with the nature of animal evolution, and such is the harmony kept up during gestation, that in this primordial state of existence, though the powers of self-preservation and resistance to disease are limited, the fœtus is occasionally liable to be assailed by morbid causes, sufficient to produce calculi, and a train of evils not congenial to the human frame.

Blackburn, Dec. 5. 1809.

VI.

Convenient method of constructing a Steam-Bath; with an account of its effects in a case of Gastritis. By William Forbes, Member of the Royal College of Surgeons in London.

The warm bath has long been highly esteemed as the means of affording relief in many diseases, and also as assisting the action of other remedies.

The inconveniences, however, which have hitherto attended the use of it in private practice, have in many instances prevented it being used when it might have been of essential service. I had lately an opportunity of seeing an ingenious method of using vapour, by which the beneficial effects of the warm bath may be produced, divested of the inconveniences that have been hitherto experienced; and although I cannot lay claim to the honour of the invention, I take the liberty of laying it before the public, in order that it may be more generally adopted.

Its construction is simple, consisting of a common tin slipper, with a curved tin tube inserted into an aperture in front, so formed, as to admit of the other end communicating with a kettle full of boiling water upon the fire, and through this tube the vapour is conveyed into the slipper. The bottom of the slipper should be first covered with a blanket, and another folded one placed to form a cushion, upon which the patient, clothed in flannel, can sit comfortably; a blanket must be carefully placed round the neck and shoulders, and over the edges of the slipper, to prevent the vapour from escaping, which will also serve as a valve: when the patient finds the bath too hot, he (or an assistant) may easily reduce the temperature, by lifting up the blanket in a small degree.

The inconveniences attending the use of the common warm bath are, the quantity of water requisite for immersion; the length of time necessary for preparing it; the difficulty of preserving the temperature; and the tedious as well as uncomfortable process of drying the patient.

On the other hand, the advantages of the vapour-bath consists in the readiness with which it may at all times be used; the ease with which the temperature can be regulated; and the patient's running no risk of catching cold, having only to change his dress and be put to bed.

Case of Gastritis.

A case, in which the vapour-bath was of singular service, in assisting other remedies, may perhaps not be unacceptable, particularly as it occurred to a man, who, from the confined situation of his chamber, had it not in his power to have so large a quantity of water heated, as the bath in common use must have required.

Mr C——, by trade a butcher, aged 33 years, naturally of a good constitution, but much injured by drinking, was attacked with gastritis. The symptoms were as follows: constant vomiting and purging; acute pain in the epigastric region, much increased upon pressure; great prostration of strength, accompanied with a hard, quick, and thready pulse, beating about 120 in one minute. The remedies employed were bleeding, blister to the epigastric region, cupping as near the seat of the disease as the before mentioned remedy would allow, opiates in small doses, and the *vapour-bath,* which was used according to the directions already stated, three or four times in the day, for several days, to the great relief and comfort of the patient.

One circumstance worthy of notice in this case, was a difficulty in drawing blood, occasioned by a natural smallness of the superficial veins, increased by a disposition to faint.

The patient had now laboured under the disease for eight days, and upon the third, from the time of his applying for relief, the pain in the epigastrium was much relieved by the remedies used; but the hardness of the pulse, (which at this time began to intermit) and vomiting, although abated, had not ceased, added to which, he was disturbed by a violent hiccup.

In order to give the patient a chance of living, it became necessary, by a decisive mode of practice, to take more blood at any rate, although there might have appeared almost an equal apprehension of his sinking either from the disease or the remedy. My son proposed opening the radial artery, which, from the convenience attending the operation, appeared preferable to the temporal, from which there is not commonly a certainty of success in obtaining blood. About eight ounces were accordingly suddenly taken from the radial artery, which produced a complete syncope, was very buffy and cupped; (as was also that taken from the veins of the arm.) From this period the recovery of the patient may be dated; the pulse became soft, and the other symptoms (vomiting and hiccup) gradually abated, and in a few days ceased altogether.

So great a debility had, however, been occasioned, that typhus mitior supervened, from the effects of which he was between two and three months in recovering.

MEDICAL EXTRACTS, No. II.

Account of the Ottomacs, a People who eat Clay *.

On the coasts of Cumana, of new Barcelona, and of Caraccas, visited by the Franciscan monks of Guayana in returning from their missions, there was a tradition prevalent, that tribes inhabiting the banks of the Orinoco eat earth.

On the 6th of June 1800, when, on our return from Rio-Negro, we came down the Orinoco, where we had remained thirty-six days, we spent a day in a mission, inhabited by the Ottomacs, who eat earth. The village called La Concepcion of Uruana, is situated in a very picturesque manner, upon the declivity of a rock of granite. Its latitude I determined to be 7° 8′ 3″ north, and its longitude 4° 38′ 38″ west of Paris. The earth which the Ottomacs eat is a fat and unctuous clay, a real potter's earth, of a greyish-yellow tint, coloured by a little oxide of iron. They select it with much care, and gather it on particular banks on the sides of the Orinoco, and of the Meta. They distinguish, by the taste, one kind of earth from another, for all kinds of clay are not equally agreeable to their palates. They knead this earth into balls, of from four to six inches in diameter, and bake it at a slow fire, till its outer surface becomes reddish. Before they eat these balls, they moisten them anew. These Ottomacs are for the most part a very savage race, and have an aversion to improvement. The nations of the Orinoco, that are farthest from that canton, say proverbially, when they wish to speak of any thing very filthy, "It is disgusting enough for an Ottomac to eat it." When the waters of the Orinoco and Meta are low, the Ottomacs support themselves on fish and tortoises. When the fish appear at the surface of the water, they kill them by means of darts, with a dexterity which we have often admired. When the rivers experience their periodical overflow, the fishing ceases, for it is as difficult to fish in rivers become too deep, as in the open sea.

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* Tableaux de la Nature, par *A. de Humboldt*, 2 vols 12mo. Paris. 1808. vol. i. p. 191.

For an account of the practice of eating clay among some tribes of Africans, the reader may consult Mr William Hunter's Essay on the Diseases incident to Indian seamen, or Lascars, on long voyages, Appendix, No. X. and *the several authorities* referred to by him.

During this inundation, which lasts two or three months, the Ottomacs swallow prodigious quantities of earth. We have found in their huts immense stores of it, heaped up in pyramids. Each individual consumes daily three-fourths or four-fifths of a pound of earth, according to the account which Fray Ramon Bueno, a very intelligent monk, a native of Madrid, who has lived twelve years among these Indians, gave us. The Ottomacs themselves say, that, in the rainy season, this earth is their principal food. In addition, they eat little fishes, lizards, and fern-roots, when they can procure them. They are so fond of this earth, that every day they eat a little of it after their repast, to regale themselves, even in the dry seasons, and when they have abundance of fish. These people are of a very dark copper colour. Their features are as ugly as those of the Tartars. They are fat, but they have not a large belly. The missionary who resides among them assured us, that he has remarked no difference in the health of these savages, during the time that they eat this earth.

Such is the simple narration of facts. The Indians eat great quantities of earth, without their health suffering from it. They consider it as a nourishing kind of food; that is to say, they find that this food satisfies them for some time. They attribute this satiety to the earth, and not to the other very bad articles of diet which they are enabled to add to it. If they are asked what is their provision in winter, the season, which in the warm parts of South America is called the rainy-season, they point out the heaps of earth piled up in their huts. But these partial facts do not decide the following questions. Can earth, in reality, be a nutritive substance? Can earth assimilate itself to our nature? Or is it but a load upon the stomach? Does it not serve only to keep its sides distended, and in this manner contribute to alleviate hunger? It is very singular, that Father Gumila, in other respects so credulous, and whose work is so void of sound criticism, should absolutely deny that the Indians eat earth*. He pretends that the balls of clay are mixed with the flour of Indian corn and the fat of the crocodile. But the missionary Fray Ramon Bueno, and brother Fray Juan Gonzales, our friend and travelling companion, whom the sea on the coast of Africa swallowed up along with a part of our collections, both assured us that the Ottomacs do not mix this earth with the fat of the crocodile. At Uruana we never heard a word about the mixture of flour. The earth which we brought home with us, and which Vauquelin analyzed, was pure, and without any mixture. May not Gumila, confounding strange facts, have wished to allude to the bread which is prepared with the long pods of a species of *inga*. This fruit is buried in the earth that it may ferment the sooner.

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* History of the Orinoco, vol. i. p. 283.

But what surprises me more is, that the use of so great a quantity of earth does not occasion any disease among the Ottomacs. Has this colony been habituated to this kind of food for many generations? In all the countries of the torrid zone, men have an astonishing, and almost irresistible desire of eating earth; not an alkaline or calcareous earth to neutralize the acid juices, but a clay which is very fat, and of which the odour is very strong. They are often obliged to tie children, to hinder them from going out and eating the earth when the rains have ceased. At the village of Banco, on the banks of the river Magdalena, the native women who make earthen pots, put large pieces of clay into their mouth, as I have often seen with surprise *. The other tribes of America never fail to become diseased when they give themselves up to the singular desire of eating earth. In the mission of San Borgia, we saw a child who, according to what its mother told us, would not eat any thing but earth, which diet had made it as lean as a skeleton. Whence is it, that, in the cold and temperate zones, the desire of eating earth is so rare, and exists only among children and pregnant women? It may be asserted, that, in all the regions of the torrid zone, this desire for earth has been observed. In Guinea, the negroes eat a yellowish earth which they call *caouac*. The slaves which are brought into America, endeavour to procure a similar gratification, but it is always to the detriment of their health.

" Another very general cause of the *mal d'estomac*," says a modern traveller, " is, that many of the slaves who come from Guinea eat earth. This does not arise from a depraved taste; it is a custom contracted in their own country, where they say that they habitually eat a certain kind of earth, the taste of which pleases them, and which does not hurt them. They search among us for earth most resembling it. That which they prefer is a reddish yellow tufa, very common in our islands. This they even sell secretly in our public markets, under the name of *caouac* *. (M. Thibaut was at Martinique in the year 1751.) Those who are accustomed to the use of it are so fond of it, that no chastisement can prevent them from eating it."

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* Gily has made the same remark, Saggio di Storia dell' America, t. ii. p. 311. In winter, the wolves eat earth, but above all, clay. In general it would be interesting to analyze the feces of man, and all those animals who eat earth.

In the villages of the isle of Java, between Sourabaya and Samarang, M. La Billardière saw little square reddish cakes exposed to sale. The natives call them *tanaampo*. Upon examining them more narrowly, they were found to be cakes of reddish earth, which they eat †. The inhabitants of New Caledonia, eat, to satisfy their hunger, pieces as large as the fist, of friable *lapis ollaris*.

M. Vauquelin, upon analysing it, found in it a considerable quantity of copper †. At Popayan, and in many parts of Peru, the inhabitants purchase at the market calcareous earth, with other commodities. In using it, they mix with it the cocca, or the leaves of the *erythroxilon peruvianum*. Thus we find, that this taste for eating earth, which it would seem that nature ought to have reserved to the inhabitants of the ungrateful regions of the north, extends through all the torrid zone, among the indolent races of men, who live in the most beautiful and the most fertile countries in the world.

Extract of a letter to M. HUMBOLDT, *from* M. LESCHENAULT, *botanist to the Voyage of discovery to Australasia,* "*On a kind of earth which is eaten at Java.*"

THE earth which the inhabitants of Java sometimes eat, is a species of reddish clay, slightly ferruginous. It is spread out into thin cakes, and toasted on a thin iron plate, after being rolled up into little cylinders, resembling in form the cinnamon of commerce. In this state it gets the name of *Ampo*, and is sold in the public market.

Ampo has a very faint burnt taste, which it gets from the toasting. It is very absorbent, adheres to the tongue, and dries it. It is scarcely eaten, except by the women, especially when they are pregnant, or when they are affected with the disease called in Europe *depraved appetite*. Many also eat *ampo* to make them thin, because meagreness is considered as a kind of beauty among the Javanese. The desire of remaining longer beautiful, shuts their eyes to the pernicious consequences of this custom, which, by habit, becomes a want, which it is extremely difficult to wean themselves from. They lose their appetite, and can no longer take without disgust even a very small quantity of nourishment.

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* *Thibaut de Chanvallon*, Voyage à la Martinique, p. 85.

† Voyage à la recherche de La Peyrouse, vol. ii. p. 322.

‡ Ibid, p. 205.

I am of opinion that the *ampo* only acts as an absorbent, by taking up the gastric juice. It deceives the wants of the stomach, without satisfying them. Far from nourishing the body, it takes away the appetite, that useful admonition, which nature has intended for its preservation. Thus, the use of ampo gradually induces decay and premature death. It would be very useful to appease the hunger for a time, in circumstances where food is not to be had, or only unhealthy and hurtful substances.

Paris, 15*th May* 1808.

Medical Topography of Mexico *.

The physical climate of a country does not depend entirely on its distance from the pole, but also on its elevation above the level of the sea, its proximity to the ocean, the configuration of its surface, and a great many other local peculiarities.

The influence of these causes is strongly exemplified in Mexico, one part of which, consisting of 60,000 square acres, called *provincias internas*, lie in the temperate, and 50,000 in the torrid zone. Of the latter, more than three-fifths enjoy, from their immense elevation above the level of the sea, a temperate, and rather cold climate. This immense kingdom may be described as consisting of an elevated flat in the interior, with sloping sides, surrounded with a low plain.

It is only the skirts, as it were, of this vast kingdom, which enjoy a tropical climate. The mean temperature of these plains, at least of such of them as lie within the tropics, and do not exceed 300 metres in elevation, is 25° or 26° centigrade. These fertile regions are called by the natives *tierras calientas*, and produce sugar, indigo, cotton, and bananas in abundance. But when unseasoned Europeans remain there long, and when they associate in populous cities, these countries become the seat of the yellow fever, known by the name of the *vomito prieto*. The harbour of Acapulco, and the valleys of Papagayo, and Peregrino, are amongst the warmest and most unhealthy countries of the world. On the eastern coast of New Spain, the excessive heats are occasionally moderated by the impetuous north wind, which blows from October to March, and often sinks the thermometer to 16° Cent.

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* Voyage d'*Alexandre de Humboldt* et *Aimé Bonpland*. Essai statistique *sur la Nouvelle* Espagne. 4to. Paris, 1808.

On the slope of the Cordilleras, at the height of 1200 or 1500 metres, the mean temperature of the whole year is 20° or 21°, and its extreme variations are but 4° or 5°, forming the *tierras templadas* of the natives. This is the climate of Xalapa Tasco, and Chilpanzingo, cities celebrated for their salubrity, and the abundance of fruit-trees cultivated in their vicinity. Unluckily their elevation is nearly that at which the clouds rest, and they are therefore apt to be enveloped in thick fogs.

The *tierras frias* comprehends the flats which are elevated above 2200 metres, and whose mean temperature is less than 17°. At Mexico, sometimes, though rarely indeed, the thermometer falls a degree or two below. In the cold season the mean temperature is 13° or 14°, and in summer, in the shade, it does not rise above 24°. The mean temperature of the plain of Mexico is 17°, but in the more elevated plains, exceeding 2500 metres, the climate under the tropics is rude and disagreeable. The winter is not remarkably severe, but during the summer the sun does not heat the rarified air of these plains sufficiently to develope flowers and ripen fruit. It is this constant equality of temperature, this absence of ephemeral heat, which gives a peculiarity of character to high equinoctial regions; and therefore the cultivation of many vegetables does not succeed so well in the Mexican Cordilleras, as in colder plains, situated to the north of the tropic.

The provinces called internal, and situated in the temperate zone, enjoy, with the rest of North America, a climate in which German winters succeed Sicilian summers.

Population of New Spain.

The population of New Spain amounts to about four millions and a half, and is increasing rapidly. Mr Humboldt calculates, from an examination of the parish registers, that the births, upon an average, are to the deaths, as 170 to 100, while, in the United States, theyare as 201 to 100. It appears that, on the lofty plain of the Cordilleras, the excess of births is greater than on the sides, and on the sultry coasts. At Panuco, where the heat is as great as at Vera Cruz, but the yellow fever is as yet unknown, the proportion of births to deaths is only 123 to 100. That the heat alone is not the cause of this great mortality, is proved by the salubrity of Indostan, and some parts of South America. In general, the sides and arid plains of equatorial America may be considered as healthy, notwithstanding the excessive heat of the sun. Individuals of a ripe age, and especially those approaching to old age, have little to fear in these countries, whose insalubrity has been exaggerated. The mortality is greatest among the children and youth, especially in those regions which are, at the same time, very hot and very humid. Intermittent fevers prevail along the whole coast, from the mouth of Alvarado to Tamiagua and Tamico, and the plains of New St Andero. The western slope of the Cordilleras of Mexico, and the coast of the South Sea, from Acapulco to the harbours of Colmia and San Blas, are equally unhealthy. We may compare this humid, fertile, and insalubrious soil, to the maritime part of the province of Caraccas, from New Barcelona to Porto Cabello. Tertian fevers are the scourge of these countries, and the mortality is so great, that the population scarcely makes any visible progress, while, in the cold regions of New Spain, and these constitute the greatest part of the kingdom, the proportion of births to deaths is 190, or even 200, to 100.

The proportion of deaths and births to the population, is more difficult to ascertain; but M. Humboldt estimates the former at one in seventeen, and the latter at one in thirty. In France, the former is only one in 28.1, and the latter one in 30.9, and in Prussia, in 20 and 32, and in Sweden, in 30 and 39. In general, the population increases very rapidly in mild and fertile countries, which are but thinly inhabited. Thus, the proportion of births to deaths, is in France 110 to 100, England 120, Sweden 130, Finland 160, Russia 166, West Prussia 180, Tobolsk 210, High Plain of Mexico 230, New Jersey 300.

M. Humboldt gives the following formula for estimating the period necessary for the doubling of a population.

Let p be the population, n the proportion of the population to the births, d of the births to the deaths, the state of the population at any number of years, k, will be expressed by $p\,(1 + n(1 - d)^{k}$, so that to find when the population will double, the number of years k will be expressed by

$$k = \frac{\log.\ 2.}{\log.\ (1 + n\,(1 - d)}$$

Without any disturbing cause, the population of New Spain should double in nineteen years; in the United States, since 1784, it has doubled in from twenty to twenty-three years, and in some places in thirteen or fourteen; in France it doubles in 214.

Causes Checking the Population of New Spain.

The chief causes which check the population of New Spain, are the small-pox, a disease called by the natives, *matlazahuatl*, and especially famine.

Small-pox, introduced in 1520, commits its ravages only every seventeen or eighteen years. In equinoctial countries, like the black vomit, and several other diseases, it seems to have regular periods of recurrence; for, although frequently introduced by shipping from Europe, it does not become epidemic, but at well-marked intervals. It committed terrible ravages in 1763, and especially in 1779. In that year it carried off more than 9000 in the city of Mexico alone. The epidemic of 1797 was less fatal, chiefly on account of the attention and zeal with which inoculation was propagated. In Mechoacan, of 6800 inoculated, only 170 died, and many of these had probably been previously infected. In the whole kingdom 60,000 were inoculated.

Vaccination was unknown till 1802, when the small-pox was epidemic on the coasts of the South Sea. The virus was brought in a vessel from Spain, but it did not succeed in producing a pustule, although Profeſsor Unanue supposed, that in all those upon whom he had operated, the subsequent small-pox were mitigated; and he employed matter from them, to render that disease milder by the common inoculation. Cow-pock was, however, effectually introduced by Mr Murphy in 1804, and Dr Valmis's expedition arrived soon after, and organized the means of propagating and preserving the virus.

It is also stated by M. Humboldt, that, in 1802, it was discovered that the cow-pox was known to the peasantry in the Peruvian Andes. A negro slave in the family of the Marquis Valleumbroso, was inoculated with small-pox, but ineffectually. They were going to repeat the inoculation, when the young man declared that he was very certain he would never take the small-pox, because, in milking the cows of the Cordilleras of the Andes, he had had a sort of a cutaneous eruption, caused, as the old Indian herdsmen said, by certain tubercles, which are sometimes found on the teats of the cow. "Those who have had this eruption," said the negro, "never take the small-pox." The Africans, and especially the Indians, evince great sagacity in observing the characters, manners, and diseases of their domestic animals. It is not, therefore, astonishing, that after the introduction of horned-cattle into America, the common people should have remarked, that the pustules upon the cows' teats should communicate a sort of mild small-pox, and that those who had it should escape the general contagion during epidemics.

M. Valmis discovered, in the environs of Valladolid, and in the village of Atlisco, near Puebla, cow-pox on the udders of Mexican cows. This fact renders the preceding story less improbable, for the Hindostan relation of a similar kind was a mere fabrication, to impose upon us a great belief of their sagacity.

The *matlazahuatl*, a disease peculiar to the Indian race, does not seem to occur oftener than from century to century. It raged particularly in 1545, 1576, and 1736. The Spanish authors call it a plague. The most recent epidemic having occurred at a period, when, even in the capital, medicine was not considered as a science, we have no accurate account of this disease. It has undoubtedly some analogy with the yellow fever, or black vomit, but it does not attack whites, whether European or native. The individuals of the race of Caucasus do not seem to be liable to this mortal typhus, while, on the other hand, the yellow fever, or black vomit, very rarely attacks the Mexican Indians. The chief seat of the black vomit is the sea coast, where the climate is excessively warm and moist. The matlazahuatl, on the contrary, carries terror and death to the interior of the country, to the central plain, to the coldest and driest regions of the kingdom.

Father Torribio says, that the small-pox, introduced by a negro, in 1520, carried off half the inhabitants of Mexico. Torquemada states, that the matlazahuatl carried off 800,000 Indians in 1545, and 2,000,000, in 1576; but M. Humboldt justly observes, that these numbers must be in a great measure conjectural. He also remarks, that there is an interesting problem to be resolved. Was the plague, which is said to have ravaged the Atlantic regions of the United States, prior to the arrival of the Europeans, and which Dr Rush and his followers consider as the origin of the yellow fever, the same with the matlazahuatl of the Mexicans?

The last principal cause checking the population of Mexico, famine, does not fall within the scope of this Journal. Scarcity of provisions is always accompanied, and in every part of the globe, with fatal epidemics. In 1784, a famine produced asthenic diseases among the poor, which together carried off 300,000 of the Mexicans. This famine was chiefly caused by an extraordinary meteorological phenomenon. The maize, after having experienced an extraordinary drought, was frozen on the night of the 28th August, even at 1800 metres of elevation. The Ottomacs on Umana, on the Orinoco, swallow, for several months in the year, clayey earth, to absorb the gastric juice, and to allay, in some measure, the hunger which torments them.

The mines have been long considered as a principal cause of the depopulation of America. This, M. Humboldt admits, may have been true after its conquest, and even in the seventeenth century.

In the southern part of Peru, where the barbarous law, *la mita*, drags the Indians from their homes and compels them to labour in the mines, this may still operate; but it is not so much the labour, as the sudden change of climate which renders the *mita* so destructive to the Indians, for this race has not that flexibility of constitution which characterizes the European. The health of the copper-coloured race suffers infinitely, when transported from a warm to a cold climate, and especially when forced to descend from the heights of the Cordilleras into those narrow and humid valleys, in which all the miasmata of the neighbouring regions seem to be deposited. In New Spain, for thirty years past, there has been no *mita*. Mining is a perfectly voluntary occupation, and miners are not subject to a greater mortality than other classes of people. This is the more extraordinary, as in some of these mines the temperature is 34°, while in winter the thermometer sometimes sinks in the open air to 4 or 5° below freezing, so that the Mexican miner is subjected to a variation of temperature of 30°.

5000 or 6000 individuals are employed in amalgamation, or the manipulation which precedes it. Many of these pass their whole life in walking barefoot, on a compound of bruised metal, moistened, and mixed with muriate of soda, sulphate of iron, and mercury oxidized by the contact of atmospheric air and the rays of the sun, and yet these men enjoy the most perfect health, and only very rarely experience those nervous affections which may be ascribed to the absorption of the mercurial oxide. At Guanaxuato, part of the inhabitants even drink, with impunity, the water which has washed the amalgam; and the mules are fond of it, because it contains a little muriate of soda. M. Humboldt thinks, that by rest, all the mercury is deposited from it in the form of the insoluble grey oxide and muriate.

The population of Mexico is not sensibly affected, either by the accession of new colonists from Europe, or by the black vomit. The latter is confined to the coast, and does not carry off 2000 or 3000 annually, and the former do not amount to 800. The increasing population of Mexico is entirely owing to its internal improvements.

Longevity of the Mexicans.

Travellers, deceived by the physiognomy of the Indians, are induced to think that longevity is very rare among them. Their hair never becomes grey; the want of beard gives a youthful air, and their skin is not disposed to wrinkle. "It is not uncommon in that part of Mexico, which is under the temperate zone, and half way up the Cordilleras, to find natives, especially women, reach the age of a hundred. This old age is in general fortunate, for the Mexican and Peruvian Indians preserve their muscular force until their death. During M. Humboldt's residence at Lima, an Indian, Hilario Pari, died, aged 143; he had been married ninety years to an Indian woman, who lived to the age of 117. Until he was 130 years of age, he daily walked three or four leagues, and he became blind 30 years before his death, leaving behind him, of twelve children, only one daughter, aged 76.

Deformity is very rare among the Indian race. In countries where the goitre occurs, it never affects Indians, and very rarely *metis*, the offspring of Indians and whites. Martin Salmeron, the best proportioned giant M. Humboldt ever saw, was the son of a metis and an Indian woman. He was 2.224 metres, or six feet ten inches two lines and two-thirds, Paris measure.

THE INQUIRER. No. XIX.

On the Practice of Medicine in the Royal Navy.

> "Non lice a noi da l'ocean profondo
> Recar vera notizia al nostro mondo?"
>
> TASSO.

It is not my intention, in this paper, to detail the economy of nautical practice. I shall only mention that, since the establishment of sick-berths, the sick sailor has the comfort of a clean, well-aired, and convenient apartment; and that his medical attendant, while he enjoys a situation at once easy, comfortable, and respectable, in his domestic condition, possesses every opportunity that can be required for study.

Having premised this much, we shall now proceed to the immediate object of this essay, and endeavour to give some account of what we conceive to be the chief advantages and disadvantages attending the practice of medicine at sea. In the first place, let us consider the advantages that a situation on shipboard affords, for improving the young surgeon in practical knowledge; a consideration, which will be allowed to be of the most essential importance, by all who themselves have found, that the knowledge gained in academic bowers is light and comparatively useless, till fixed by personal experience at the bedside of pain. These we conceive to be very considerable. It is true, the naval surgeon cannot boast of those extensive and elegant fields of practice, which many situations on shore display; yet we are very doubtful whether he is not in possession of a field, more calculated for enriching the mind with useful knowledge, than even those splendid scenes can afford;—we mean a limited practice, with very peculiar advantages. It is a circumstance greatly conducive to his improvement, that the young surgeon is appointed to small vessels, and that he is removed to a more extended practice as he has, or may be supposed to have, increased in knowledge. Among 70 or 120 sailors, (the usual complement of such vessels) there will rarely occur so much sickness as might tend to perplex him; but he will have time thoroughly to study every case of disease that comes under his care. Unembarrassed by numbers and want of time, unseduced by any symptom, however prominent, and which might attract the whole attention of the cursory observer, he can leisurely and coolly review the whole phenomena of the disease, appreciate the value of the different symptoms, and thus be enabled to attain one of the most important of acquisitions to a medical man—a knowledge of nosology *. Thus instructed, he will enter upon a larger field of practice, with superior advantages, and, as he progressively arrives at greater heights, will be enabled to correct his speculations, and increase his knowledge by more extensive observation.

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* It may indeed be said, that, with regard to this latter circumstance, the private practitioner has similar advantages. We do not think so. The absence of the thousand distractions that, on shore, drag the *young* physician from his study, while the very limited number of diseases, and the circumstance of having them continually under his eye, in a manner, force the naval surgeon to pay more attention to cases of disease, than the private practitioner. With regard to the advantages of a *limited practice,* I cannot refrain from giving the sentiments of a late author, which coincides perfectly with the notions we have long entertained.

"In every large town there are professional men in extensive practice, who hurry from patient to patient, who write an old prescription because it is familiar to them, or a new one because it is fashionable, receive their fees, and think no more of their patient or his disease. That the public should suppose such men possessed of much experience is a natural mistake; but it is our duty to controvert the absurd idea, too prevalent among professional men themselves, that it is necessary to see very many patients to become an experienced practitioner, or that, in walking the wards of a crowded hospital, much practice is to be seen. On the contrary, a limited practice is most favourable for reflection and professional improvement. A multitude of patients only serves to distract the student, and to confound him; and the remarkable cases, which he may never again meet with, attract his whole attention, and lead him to neglect those common diseases which, in future, it will be his chief employment to cure." Edin. Med. & Surg. Journal, Vol. i. p. 479, 2d edit.

observation. The usual number of sick on board of our largest ships, is sufficient to exercise the faculties of the experienced surgeon, without fatiguing them. Having thus shewn the opportunities for study which his situation affords, let us now inquire into the nature of the materials he has to work upon. It cannot have escaped the observation of any one, who has witnessed the customs and habits existing in the navy, that the naval practitioner enjoys very superior opportunities for becoming acquainted with the laws which regulate health. Forming his observations on a limited body of men, leading the mechanical life of sailors, whose every action is public; the naval surgeon has it in his power to know the whole body of *juvantia et lædentia* that act upon their systems. He may not only be intimately acquainted with the *character* of every individual; but he may easily ascertain the quality, and even quantity, of every man's food and drink, the nature of his habits, with regard to exercise, air, clothing, &c. from one year's end to another. The objects of his observation being placed, as it were on a stage, isolated in the middle of the ocean, and receiving, unadulterated, all the influences of the sky; it is in the power of the naval practitioner, I had almost said exclusively, to ascertain the real effects of the atmosphere on health. Living in comfortable apartments, with artificial means to counteract the season's temperature, and evade its violence, or placed in a thousand different situations, which modify or defeat its power, the inhabitant of the country or the city cannot be said to exhibit pure specimens of atmospheric influence. But the sailor, to whom no close apartments, or artificial heat, ever temper the season's rigour, or from whose head no roofs, or umbrella's shade, wards off the rain or sun-beam, must exhibit, in the conditions of his system, the real effects of the weather on health. And various, indeed, are the changes of the sky to which the British sailor is exposed.

> ——" Quod mare Daunæ
> Non decoloravere cædes ?'
> Quæ caret ora cruore nostro ?" Hor.

On the same principle, it is evident that we have superior means for studying the history and laws of contagion.

This circumstance, of being able to ascertain the causes of diseases, is of peculiar importance on ship-board; because, there, a representation of the surgeon to his captain, may, in a moment, effectuate a complete change in the whole manner of living of the ship's company; and thus, when the morbific cause is at all vincible, the ravages of disease may be stopped, and the ship at once restored to health.

In the actual treatment of disease, also, we conceive the naval surgeon possesses some peculiar advantages; some relating to the patient's welfare, some to his own improvement. He sees the disease in its very commencement; a circumstance of great importance, both as tending to the discovery of the nature of the disease, as well as affording the best chance for curing it; for it is remarked, that the progress of most diseases can only be stopped effectually in their earliest stages. In private practice the case is very different. During the cure, the naval surgeon has the patient perfectly under his controul. "His proceedings being obstructed, neither by the prejudices of ignorance, nor the weakness of affection [*]," he can employ, and follow up the most vigorous and determined practice. And rarely, indeed, will he have to contend with the obstinacy of his patient, as frequently happens in private practice: for the simple and unpresuming seaman looks upon his medical attendant not merely as a surgeon; but, in implicitly following his directions, he not only thinks it reasonable to take the advice of the wiser man, but conceives it his duty to obey the commands of his officer. In domesticating with his patients, he can attend to every stage of the disease; is at hand on every emergency. Nor need he entrust the administration of medicines to an ignorant nurse: it is the duty of the assistant-surgeon to give them with his own hand. No food or drink can be given the patient, unknown to the surgeon. In short, as to what regards the treatment of the patient, the practice of the sick-bay is analogous to the practice of an hospital.

Let us now inquire what are the principal disadvantages that nautical medicine labours under. The great want, and what is truly a very great want, is the dietetic part of medicine. Although this defect is partly remedied by the allowance of necessaries in the surgeon's charge [†], yet it is evident from the nature of a sea-life, that it must be in a great measure deprived of all those delicacies and variety of diet which are to be found on shore, and which on many occasions form the principal means of cure. Another great evil, particularly in chronic diseases, is the unchanging, wearying uniformity of scene; this, by the want of distractions, allows and disposes the mind of the patient to brood over and aggravate his sufferings. A third evil is the scanty allowance of medicines, both in quantity and variety, furnished by the Board. But we are of opinion, that this is a want of inferior importance, and subscribe to the opinion of the sagacious

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[*] Currie.

[†] *These are rice, sago or arrow-root, barley, tea, sugar, portable soup.*

Stoll: "Celui la traitera ses malades avec succès, qui saura l'occasion de placer un remède àpropos, et qui comptera plus sur une indication bien precise, que sur une certaine vertu specifique des medicaments *." Besides, when the surgeon is desirous of trying the effect of any new medicine, or when a disease occurs, which requires other means for its treatment than those of which he is in possession, (a circumstance, by the bye, we very much doubt) he will not hesitate to remove the inconveniency by private purchase. At any rate, this is not a necessary defect; the Medical Board can remedy it. There is another evil attending the practice of medicine in the navy, which, though not commonly mentioned as such, I consider of considerable importance. I mean the well-known practice of feigning disease, or *skulking*, as it is technically called, which is still not uncommon among our seamen. The knowledge of this fact, is apt to render the surgeon sceptical, and, by throwing a shade of doubt upon the relations of his patients, may on many occasions give a check to curious and important speculations. Many things, which are now established as facts in medicine, have been gratuitously assumed upon the assertions of the patient; many curious theories have no more solid base; and, if we attend to the subject, we will find that the complaints of the patient influence practice, more than we would perhaps at first conceive. Hence on ship-board, where the surgeon must be always on his guard against the schemes of the lazy, and the cunning, when any thing in the relations of his patients appears uncommon, or deviating from the ordinary course, and especially when the usual criteria of disease are silent, he is thrown into a most perplexing state of uncertainty; from which, often the most extensive knowledge of nosology and physiology, and the most strict scrutiny into the patient's complaints, cannot free him. From this cause, he is often obliged to neglect circumstances of avowed disease, which, if they could be proved really to exist, might tend to illustrate the obscurities of medical philosophy. Doubtless, an accurate and extensive knowledge of nosology, and a familiar acquaintance with the laws of the animal economy, will greatly enable us to detect imposture; yet there are cases occurring, which baffle the most experienced and most learned. Without the knowledge above mentioned, the naval practitioner is perpetually exposed to the most fatal uncertainty; at one time crediting the most glaring inconsistencies, and at another disregarding the heart-wrung complaints of real suffering. Some laughable instances of the former, and some melancholy ones of the latter, could be mentioned.

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* *Ratio Medendi*, traduite par Mahon; avec des Notes par Pinel, Baude*locque*, &c. An. IX.

Such, we think, are the principal disadvantages attending the practice of medicine in the Royal Navy; whether they be counterbalanced by the advantages related, we shall leave the unprejudiced to determine. We hope, however, that even after this meagre detail, it will not be denied, that if the list of naval surgeons be said to contain few illustrious names, the cause must be sought for somewhere else than in the nature of their situation; a situation, we will venture to affirm, which affords materials for exercising and improving the perspicacity of a Sydenham; an opportunity for trying the speculations of a Darwin, or of displaying the happy boldness of a Currie. Perhaps it is no small degree of praise to say, that such a situation produced a Lind, a Blane, and a Trotter*. J. F.

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* The number of naval surgeons, in 1808, was 720; of assistants, 420; since that time the number is greatly enlarged, particularly of the latter class.

PART II.

CRITICAL ANALYSIS.

I.

An Essay on the use of a Regulated Temperature in Winter-cough and Consumption: including a comparison of the different Methods of producing such a Temperature in the Chambers of Invalids. By Isaac Buxton, M. D. Physician to the London Hospital and to the Surrey Dispensary. Small 8vo. pp. 176. London, 1810. Cox.

The two diseases, for which a method of alleviation is proposed in this little volume, may be deemed the particular endemics of our island, and are unquestionably the regular causes of a considerable proportion of the annual mortality. In London, the deaths occasioned by these maladies amount to one-fourth of the whole mortality, as the bills of that metropolis testify; and in other parts of the country the proportion appears to be equally great. If we travel to more southerly and warmer climates than our own, we find these maladies much less frequent; and on the contrary, we observe that the natives of tropical countries, when removed to this climate, especially if at an early age, most frequently die consumptive; nay, that even the birds and beasts, which are brought to England from those countries, are also often destroyed by consumption of the lungs. Hence it is an obvious inference, that these pulmonary affections are the result of the cold and variable temperature under which we live: which is farther proved by the fact, that it is principally in the winter and spring, that these affections originate; that the summer sometimes removes, and commonly suspends them in their early stages; and that the former of the two disorders, winter-cough, has hence obtained its popular name, which Dr Buxton adopts. When it is considered, moreover, that the most effectual remedy, particularly for consumption, has been found by experience to be the removal of the patient to a warm climate during the winter; the conclusion forces itself on our conviction, that, as cold and the frequent vicissitudes of weather are the exciting causes of this fatal malady; so a warm and equable temperature constitutes the most effectual preventive, on the one hand, and the best means of cure on the other.

It has frequently been suggested by physicians, who have thus considered the subject, that an artificial warm climate might be produced by regulating the temperature of apartments, to which the patient should be confined during the winter months; and that thus the principal advantage of a removal to the south of Europe, or to the islands of the Atlantic, might be obtained at home, in the midst of friends, and without the expence, inconveniencies, and dangers, attendant on a voyage to a distant country. We remembered to have heard the suggestion strongly pointed out by Dr Pearson many years ago;—Dr Beddoes has related twelve cases, in which the plan was put in practice with considerable advantages; and several writers have mentioned it, but without experience as to its effects; having been probably deterred from putting it to that test, by the difficulties which occurred to them, in the way of its execution.

We are, therefore, disposed to concur with our author, in believing that the subject merits a much greater attention than it has hitherto obtained; and conceive that this essay is calculated to be beneficial to the public. Dr Buxton lays no claim to novelty in the proposal of the expedient; he only hopes "to draw for a moment the attention of medical men to an important but neglected auxiliary; and so far to remove objections to its employment from the minds of patients, that, when proposed by a professional attendant, it may not be considered as an untried, unpromising experiment." Pref.

Dr Buxton, after stating that consumption is too well known to every individual to require any description, gives a brief account of what is meant by "winter-cough," (which is the chronic catarrh, or tussis cum dyspnœa, of authors,) with some observations on the fatality, and causes of these disorders, and on the terminations of winter-cough in consumption, inflammation of the lungs, general dropsy, and hydrothorax. These observations, indeed, are but superficial, and do not evince any great acuteness of discrimination; but it appears that Dr B. intended them principally for popular perusal. He then shortly states the arguments in proof of the origin of those complaints from cold and variable temperature, and the experience of their prevention and cure by the opposite temperature, which we have alluded to above; and subjoins five or six cases, in which the benefits of a regulated temperature of the apartments of the sick were experienced, in this country, two of which occurred in his own practice.

He concludes his essay with remarks on the difficulties and requisites in the establishment of such a temperature, and on the different species of stoves and fire-places which may be employed for the purpose, adding some "hints" to those who are afflicted with the diseases in question, who may be led to adopt the expedient here suggested. We shall transcribe a case or two for the benefit of our readers, and point out the means, which Dr Buxton has shewn to be the most practicable and efficacious for sustaining a regular warmth in the chambers of the sick.

One of the cases was communicated to the author by Dr Jenner, and occurred in a lady nearly related to himself. Dr J's account of it is as follows:

"Mrs ——— was attacked, about fifteen years ago, at the commencement of winter, with an inflammatory affection of the lungs, which brought on spitting of blood. This was followed by a train of symptoms, which left but little room for me to doubt that she was on the verge of pulmonary consumption. Having often, under similar diseases of the chest, in common with others of the profession, experienced the good effects of the removal of patients to a warmer climate, I saw no reason why we were not to hope for the like advantages from an atmosphere rendered temperate by art. This was tried, and with the most happy result. The temperature of her chamber was attentively regulated by a thermometer, which was not suffered to sink below 62° by night; and by day it was kept a few degrees higher. The winter was rigorous; and there was some difficulty, by means of common fire-places, in keeping up a more uniform degree of heat, especially by night. The cough, and all the hectic symptoms gradually subsided. Mrs ——— did not go out into the open air till it became of an equal temperature with that she had been breathing within doors; and, if I recollect right, this was not till the beginning of the ensuing month of May. But a considerable time before this she had regained her usual health. Since this period Mrs ——— has found, in the course of some succeeding winters, the recurrence of the symptoms in a less violent degree; but their ill tendency has been uniformly checked by avoiding exposure to the cold air. The concise history of this case is so similar to others which have come under my observation, that it would be little more than a mere repetition to lay them before you." P. 83, et seq.

One of the cases, under the author's treatment, may be added in corroboration of the efficacy of the remedy.

"Miss H., before I saw her on the first of January 1809, had been attended by Mr Wallace, jun. of Carshalton. She was about twenty years of age, tall, and thin. During a year preceding the time of my seeing her, she felt weakly, and was easily fatigued. She represented herself as having caught cold three months before my attendance, and as having been worse in every respect since that time. I will not relate the history of those symptoms to which I was not a witness; but will merely state the situation in which I found her. She complained of pain in her left side, which, although not very acute, was aggravated when she coughed. The cough teazed her sometimes a good deal, at others not much. The expectoration was not considerable, was thrown up with difficulty, and was rather frothy. A small quantity of blood was occasionally discharged, streaking the expectoration. Her strength was extremely diminished, so that she was greatly fatigued by having her clothes put on, and by being placed in a great chair near the bed-side, or by being engaged in a little conversation. She was frequently, but not always, very hot towards night, and perspired towards morning. She had no appetite; and was always worse when the weather became colder. Her pulse was very much quickened. From these various symptoms conjoined, but more especially from the excessive debility which she experienced, from her great emaciation, and the difficulty of removing the pains in her chest, Mr Wallace and I were strongly of opinion, that she could not survive till spring. As it was now the midst of winter, we had reason to expect much cold weather. I therefore, in the strongest and most pointed manner, urged the necessity of keeping Miss H.'s apartment at a regulated temperature: and happily prevailed on her and her relatives to consent to a stove being fixed in the chamber in which she was. Every one will recollect that, subsequent to the period of which I am speaking, the weather was uncommonly severe. Mr H., my patient's father, had been accustomed to a regulated temperature in his hot-house, and therefore well understood the use of a thermometer in his daughter's chamber, and of other requisites for such an undertaking. The temperature from that time was generally kept to the standard of from 60° to 65°. It is not my intention to relate the various circumstances which subsequently occurred during the remainder of the winter, as I merely wish to impress general results on the mind. Although Miss H., at the beginning of spring, was so excessively weak, as literally to be scarcely able to raise her hand from the place where it lay; yet I am happy to say that she is at this moment quite recovered; has a good appetite; can walk several miles without fatigue; has regained her flesh; the pain in the chest, cough, and nocturnal perspirations have entirely ceased, so that I consider her as thoroughly recovered. Mr Wallace, the patient herself, and the family, perfectly agree with me in the opinion, that, had not a regulated temperature been employed, she would certainly have been incapable of surviving the severity of the season." P. 88-92.

It cannot be questioned then, we apprehend, that experiment corroborates the reasoning which led to it, and that an *artificial climate*

climate may be produced in this country, by which incipient consumption may be, in some instances at least, effectually obviated; and we conceive, that the most useful part of Dr Buxton's suggestions is that which demonstrates the facility with which such an expedient may be accomplished.

There are four modes in which the air of an apartment may be kept at a regulated temperature; namely, 1. by the English open fire-place; 2. by the close German stove; 3. by passing heated air into the room; and 4. by a compound of the stove and the open fire-place; the advantages and disadvantages of which the author points out. The English fire-place is justly deemed the most ineffectual mode of sustaining a regular heat in a room. Our bodies are warmed by such a fire-place only by the direct rays impinging on us; the air is scarcely affected; we may be scorched on the one side, and chilled on the other; and "while the external parts of the body are sufficiently heated by the fire, the air breathed is frequently at the utmost not above 40°;"—not to mention the great currents of air which open fire-places occasion, even when *Rumfordized.* The German or close-stove affords nearly an equal and regular temperature over the whole room; but it is extremely defective in causing a change of the air in the apartment; it occasions in fact no circulation of the air, which is consequently soon vitiated, and unfit for the wholesome purposes of respiration; whence in hot-houses, or rooms thus heated, a faint sensation and closeness are generally perceivable. This mode of heating sick rooms is, therefore, objectionable: even with the free circulation of air, which our open grate occasions, is it not easy to avoid a closeness and an unpleasant smell in sick rooms. The third plan, as invented by Mr Strutt of Derby, in order to communicate a steady warmth to a large manufactory, consists of supplying the apartments with air, heated by passing within a tube or chimney, inclosing and ascending from a close stove, as described in Dr Clarke's Report *. This expedient, however well adapted for a large hospital or manufactory, is considered as too expensive for general adoption in private houses †. But, fourthly, in the union of the English and German stove, which may be considered as effected in the common shop-stove, or ironing-stove used in laundries, Dr Buxton believes that we possess all that is necessary for the purpose of the proposed remedy: a stove of this kind was employed by the late Dr Beddoes, and found to answer every purpose. " It resembles the English stove," our author observes, " because it opens into the apartment which it warms, thus causing a constant ventilation. It resembles the German stove, because it exposes a large heated surface, continually warming the particles of air which come into contact with its sides." p. 153. Less fuel is consumed, and the currents of air are considerably less, than when the common fire-place is used. With respect to the management of the fire, " the plan adopted by the friends of Miss H. was, that some one of the family sat up late, and just before going to bed raised the fire, which occasioned no danger, as the extensive iron plate placed around the stove on the floor, effectually secured the boards from accident. Another of the family rose early in the morning, and immediately kindled the fire in Miss H.'s stove. By this management the thermometer rarely sunk considerably during the night, being seldom in the morning much below 60°." The whole expence of a stove of this kind, with a flue and dish, a chimney-board, and the fixing it, does not exceed three pounds ten shillings.

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* See Edin. Med. & Surg. Journal, Vol. iv. p. 17.

† *Mr Murray, of* Edinburgh, has lately obtained a patent for a modification *of these stoves, by* constructing them entirely of cast iron, by which means they *are made of any size,* and are rendered portable.

We should not have dwelt upon these minutiæ, which may to some appear trivial, nor have extended this article to its present length, on the subject of so small a volume, did we not believe, that the expedient here suggested is one of considerable efficacy, and too much neglected, and that numerous practitioners, who do not give their attention to little mechanical contrivances, may have been induced to overlook the remedy, for want of the suggested means of using it. There is nothing which calls for much praise or censure in the execution of this essay: it may sometimes appear to the medical reader to deal in trifles; but as a popular essay, it is clear and intelligible to all readers; and probably to the attempt to render it such a few vulgarisms of style may be attributed. We constantly hear of a person "*catching* cold,"—of a " *vast* number," a " *vast* variety," &c.

We may remark, before we conclude, that Dr Pearson, who has on several occasions published some observations on this subject *, has lately proposed the establishment of " an extensive building, so constructed as to afford in every part an equal and summer temperature. Of the great advantages," he adds, " to be expected from such an institution for many disorders, particularly for that of pulmonary tubercles, I am assured, in consequence of the benefit procured by the comparatively rude contrivances I have employed for warming the rooms of our ill-adapted houses during the last fifteen years; such as by means of large stone bottles filled with boiling-hot water, properly disposed, and assisted by double doors, double windows," &c. He also says, "I have much pleasure in acquainting you at this time, that a few days ago an architect of great celebrity, and to whom the British public owes many of its most useful works, assured me that he would shortly produce a grand plan for executing my design for the purposes of health, and conjoin a variety of comforts, and even some of the luxuries of the hot climates *."

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* See Edin. Med. & Surg. Journ. Vol. i. p. 127—the case is quoted by Dr Buxton—also Philosophical Mag. Vol. xxxi. p. 311.

II.—III.

Observations on the Walcheren Diseases, which affected the British Soldiers in the Expedition to the Scheldt. By G. P. Dawson, Member of the Royal College of Surgeons. Ipswich, pp. 133. 8vo. 1810.

A Scientific and Popular View of the Fever of Walcheren, and its consequences, as they appeared in the British Troops returned from the late Expedition; with an account of the Morbid Anatomy of the Body, and the efficacy of Drastic Purges and Mercury in the treatment of this Disease. By J. B. Davis, M. D. one of the Physicians appointed by the Medical Board to attend the Sick Troops returned to England. 8vo. pp. 200. London. 1810.

In the month of July 1809, a large armament under the command of the Right Hon. the Earl of Chatham, sailed from this country, for the purpose of attacking Antwerp, and destroying the French fleet in the West Scheldt. The occupation of the island of Walcheren, and the reduction of Flushing, were deemed necessary, to secure success to the ulterior objects of the expedition: and here it was, that the army suffered so much from that sickness, which has given rise to the publications now before us.

There

Philosophical Mag. Vol. xxxiv. p. 453, for Dec. 1809.

There were embarked on the expedition, and of course all in good health, 1,738 officers, 37,481 men; there were *killed*, seven officers and ninety-nine men; *died* abroad, 40 officers and 2,041 men; died since sent home, 20 officers and 1,850 men; the total number of those who died from sickness, in the course of six months, amounted to sixty officers, and three thousand eight hundred and ninety-one men; whilst eleven thousand five hundred and thirteen officers and men, were still sick, according to the returns on the first day of February 1810. In the above statement, we have not all the deaths nor all the sick, as the returns from some regiments had not been received, nor has any additional report been made of the cost in life and health of this grand expedition, since the conclusion of the parliamentary inquiry. Such a vast proportion of human life was extinguished at Walcheren, (as an eloquent member said,) "like a candle in a vault," that it is extremely interesting to inquire into the particulars of those diseases, which proved so destructive to our army in that quarter.

It appears that Mr Webbe, Inspector of our hospitals at Walcheren, made the first communication upon the subject of the sickness in the army, on the 20th of August. This he did, in a letter to the Surgeon-General in England, whom he informed of the appearance of the fever, which had attacked from six to eight men in each regiment, upon an average, and requested him to send an additional supply of medical assistants. To go through the squabbling and shuffling correspondence, which took place in the medical department of the army, would be foreign to our purpose—suffice it to say, that after the most shameful neglect of the pressing requisitions for physicians, surgeons, and hospital-mates, Dr Blane, and two associates, arrived in the island on the last day of September, where they found between nine and ten thousand sick. According to the report made by these physicians, the malady which prevailed among the British troops in Walcheren, was the endemic fever of marshy countries; the effect of miasmata arising from a soil, the most productive in noxious exhalations of any, perhaps, in Europe. Its destructive influence was not confined to our soldiers; for the natives are annually liable to a similar calamity; and by the sick returns of the French army, for the last seven years, it appeared, that at least one-third of its force has been yearly cut off by this endemic. To a petition and remonstrance, upon the great mortality among the troops stationed at Flushing, which was presented to the emperor Napoleon, he is reported to have laconically answered, "*L' homme meurt partout.*"

The disease is described by Pringle and Lind, and is stated by both these writers, as being most prevalent towards the latter end of the summer, and particularly apt to attack strangers. No necessity, therefore, could exist for describing the disease again under a new name:—the terms *Walcheren fever*, and *Walcheren diseases*, are worse than useless, they do positive harm, by misleading the ignorant, and multiply names without adding to the stock of knowledge. From Dr Blane's report, the form of the disease seems to have been remittent or intermittent, according to circumstances, constantly following a general law of season; appearing among the inhabitants towards the end of summer, becoming more severe in the autumnal months, particularly August and September, declining in October, and nearly ceasing in November. It is observed not to affect the higher orders of inhabitants, nor the officers of the British army who slept in upper rooms, or in elevated situations, nor the sailors who were on board ship, only a few yards distant from the shore. But among the soldiers whose constitutions were not habituated to marsh effluvia, who were exposed to military fatigues, to damp, and to want of proper accommodation for sleeping, the symptoms appeared with great malignancy. The disease is not contagious in itself, but liable to assume that new form of fever, wherever ventilation is defective, the patients crowded, or where other local causes of impurity prevail. This was strikingly proved at Flushing, where the accommodations were bad, confined, and crowded, the ditches foul and obstructed, from the consequences of the siege, and the streets filthy from imperfect police.

Some cases of typhus undoubtedly occurred, owing to the circumstance before mentioned; but in the troops which we had an opportunity of seeing after their return to England, the most prevalent disease was the irregular intermitting fever, called, by Dr Fordyce, *semi-tertian*, (Vide fourth Dissertation on Fever, p. 72.): the exacerbations were not confined to the evening, but took place at any other part of the day, and it happened often, that a patient became apparently very much relieved, and seemed to be in a state of convalescence, when all at once a fresh attack occurred and proved fatal, a circumstance which served to distinguish the malady from continued fever.—The tendency to relapse is a remarkable feature in this disorder; it is one from which the army suffers most lamentably at this moment; and it is impossible to calculate how long a quarantine can secure the patients from another attack, during the prevalence of easterly winds. It is particularly mentioned in the medical report already alluded to.—"The tendency to relapse is very great, and the deaths therefrom have been numerous, and sometimes sudden.

den. Perfect recoveries are rare; convalescence never secure; and where the recurrences of fever do not destroy life, they quickly lay foundations for permanent visceral obstructions; rendering a large proportion of the sufferers inefficient for future military purposes."

Dr Davis and Mr Dawson profess to describe what they have seen, and the field for their observations appears, from some indirect evidence, to be one and the same; both of them had the charge of the sick brought from Walcheren to the general military hospital at Ipswich, but neither of them deigns to mention the other's name. The two works which these gentlemen have published, are of a different nature, although the subject of each is the same; the chapters of the surgeon are short and concise, merely containing the result of his own experience; the Doctor's sections, on the contrary, are long and prolix; and his own remarks, often repeated, are mixed with the opinions of others, and with learned quotations from Latin and French authors. On comparing the observations upon several practical points in these separate books, we experienced that sickening of the stomach which men feel, when they are obliged to sit down quietly, to hear the contradictions and balancings of arguments, upon any questionable topic in the theory of medicine, and rise up with all their doubts unremoved. From the number of cases which came under the immediate care of Dr Davis and Mr Dawson, and from the greater number of cases which were in their neighbourhood, at Colchester and Harwich, it does not appear a very difficult task to have consulted with those medical gentlemen who had the charge of the hospitals at these places, to have instituted some comparative experiments, and to have brought forward some undeniable facts and documents, to prove the advantage or disadvantage of any particular remedy employed in the treatment of the various forms of the Walcheren diseases, as they are called.—How far such an important task has been fulfilled, will be shewn by the subsequent extracts from the works now under consideration.

" Having dwelt at some length upon the use of purgatives, which afforded the most effectual means of combating the fever of Walcheren in its protracted state, then examined the advantages and ill effects resulting from the employment of bark, and set forth the circumstances under which its administration was inefficacious or improper, I shall next advert to that remedy, which, when the above modes of treatment proved unavailing, had the power of changing the character of the disease, rendering it milder and more tractable, I may add, of removing it in its worst stages, as when complicated with visceral obstruction, and with organic derangements of parts. When intermittent had been of long standing, and had made the constitution less favourable than usual to the action of the cortex; or by its extensive ravages on the viscera, had occasioned organic changes in them, which did not yield to its administration; the patient was put upon a course of mercury, which was continued for weeks, or occasionally suspended, and again had recourse to, according to the obstinacy of the disease, and the benefit that was derived from its employment. As the fever had entailed, upon the major part of the sick at Ipswich, universal obstructions of the viscera of the abdomen, particularly of the spleen and liver, jaundice and dropsies, it became necessary, sooner or later, to call in the aid of mercury; for without it, in greater or smaller quantites, the patient stood but a poor chance of regaining his health. It was very pleasing to find that a remedy like this was in our hands, for combating with success the extensive ravages of a disease that was fast precipitating the patient to his tomb. In numerous instances, mercury made the most obstinate obstructions yield, and gave so mild an aspect to the original disorder, as to make it amenable to the action of the cortex, and ultimately cease under the influence of this its known specific. It will appear in the course of my remarks upon this medicine, that the greatest benefit accrued from it when it was slowly conveyed into the system, and there suffered to effect a gradual change in it, though it frequently operated under certain circumstances in an advantageous way, when salivation was quickly induced by its sudden and extensive introduction into the habit."—Davis's View, p. 104, 105.

"I deny," says Mr Dawson, "that mercury was useful in the Walcheren fever, and affirm, its exhibition was often attended with injury. In numerous cases there was no disease of the viscera, and here mercury could only add to debility which threatened life. I grant, and have expressly said, there was visceral diseases in many cases, particularly of the spleen, yet mercury produced not good but harm. When mercury was employed, let us inquire what were its effects, and in what way it did occasion injury. Away with arguments: let us appeal to facts. It should not be forgotten, that the subjects of the Walcheren fever were exceedingly debilitated; that this debility had come on insidiously, and had continued so long as to have materially impaired the constitution, and that they had irritable stomachs, torpid bowels, acute pain of the head, and other distressing and dangerous symptoms. Let me pause for a moment to say how a remedy so powerful as mercury, so violent in its effects, and so lasting in its consequences, could be supposed to be salutary under such circumstances, is to me inconceivable. In the Walcheren fever, four, five, or six mercurial frictions, or a few small doses of mercury, generally produced the most dreadful salivation, which made death, by suffocation, not a very improbable event."—P. 32, Observations on the Walcheren Diseases.

Again—"By those who believed mercury would cure the Walcheren continued fever, it may be supposed this medicine would be exhibited in the intermittent, upon the same principle and with the same views. It was so, and I knew of no case in which mercury succeeded in curing an intermittent, either with real or imaginary visceral disease."—P. 97. Dawson's Observations.

"I am to confine myself, in speaking of the efficacy of mercury, to its employment in the advanced stage of the intermittent which I had to combat. It was always of the highest importance to seize an early moment for resorting to this remedy, to which, indeed, I never failed to have recourse more or less freely, when the bark and purgatives had been employed in vain, as there could then no longer exist a doubt, even though induration and tension of the abdomen did not confirm the opinion, that organic changes were taking place in the viscera which retarded the patient's recovery, and laid the foundation of the most irremediable disorders. In small doses, calomel acted upon the liver and intestinal canal with great advantage, by exciting the secretions of these viscera, which were in every stage of the fever vitiated, suppressed, or diminished, consequences that yielded best to drastic purgatives, and small doses of calomel taken in the intermediate days. By degrees, the disordered state of the functions was removed, and that action excited on the living fibre that restored the secretions to their natural condition, and opposed an effectual check to the morbid bias of the system. Before I mention the circumstances under which mercury was particularly serviceable, I shall state, that I employed it in three different ways. In small and inconsiderable doses as recommended by Dr Hamilton, when it was generally combined with bark. In the quantity of a grain night and morning, a dose I continued to repeat, till soreness of the gums, fetor of the breath, and a slight increase of saliva occurred. It was frequently the only medicine I gave; at other times I combined it with the cortex, or such other remedies as particular symptoms required. Lastly, by way of friction, to the quantity of a drachm every night, or every other night, until ptyalism arose. In this manner I had recourse to it, in urgent cases, where visceral disease was combined with effusion in the cavities, and the patient lay on his back, absorbed in coma, and insensible to every object around him. I do not think a single instance of recovery could be adduced, wherein mercury had not been employed in one of the ways I have detailed. It frequently happened that small doses, long persevered in, gave an obstinate and anomalous intermittent a mild and distinct type, removed visceral obstruction, and placed the patient in a favourable state for recovery. At other times, no visible amendment occurred, until slight ptyalism was produced, and kept up for many successive days. I have known the mercurial action cease at the end of four or five weeks, when visceral disease has again appeared to increase, the ague return, and not disappear till two or three brisk purgatives had been administered, and small doses of calomel again resorted to, when the disease would once more yield; a proof that neither mercury nor purgatives would alone avail in all cases in subduing it, when thus combined with extensive visceral obstruction."—Davis's View, p. 107, 108.

Among many physicians, particularly those who are engaged in the army, we know it is a favourite opinion, that in every obstinate case of intermittent fever, and even in long continued fever, that an organic affection of the liver and spleen takes place, which is the exciting cause of the recurrence of the febrile paroxysms. But as far as our experience goes, it is in opposition to this fashionable doctrine; the visceral disease always appeared to us to be a consequence, and not a cause of the intermittent, and we have not observed that it yields more readily to mercury than to other remedies; nor have those patients, who were salivated, remained less liable to relapse.

At the approach of the cold fit, both our authors agree in praising the effects of the carbonat of ammonia, given in the quantity of five and eight grains, either alone or combined with camphor or the aromatic confection; the fit was sometimes prevented entirely, its duration diminished, and rendered less distressing. Warm port-wine, æther, laudanum, and spirits, were also given with the same views; but little is said in their favour by our authors, and we confess that we never saw any positive good derived from the exhibition of any of these remedies, in the first stage of an intermittent. Sponging the body with cold water was very serviceable, and the cold affusion stopped the fit, in some instances, where it was employed. The patients bore purging very well; they were always the better for it, and drastic purgatives are acknowledged to have been more serviceable than mercury, in diseases of the spleen, liver, and intestines. They could seldom take the bark in any quantity, or for a sufficient length of time to cure the disease. Wine, opium, and stimulants, were the remedies chiefly used in the cases of fever.

Extreme debility, accompanied with a yellowish tinge of the face and surface of the body, without any marks of organic disease; dysentery, diarrhœa, dropsy of the abdomen, thorax, and pericardium, affections of the lungs, stomach, and kidnies, formed the formidable catalogue of diseases, besides fevers, which were to be combated in the military hospitals.

The cases of dysentery and diarrhœa, were very severe and embarrassing, in consequence of the violent attacks of intermittent and remittent fever, which frequently supervened:—purgatives relieved the symptoms most effectually, and, in some instances, bleeding was employed with decided benefit. In the dissection of those who died of dysentery, the colon and rectum were always found in a diseased state, and, in a few instances, the morbid appearances extended as far as the ilium. The internal

ternal surface of the colon and rectum was ulcerated in some cases, in others there were granulations of a dark and red colour; in some, numerous cicatrices were noticed, and in many the bowel was in a gangrenous and sloughing state. The liver and spleen were in general diseased, and the omentum and mesentery exhibited numerous red and turgid vessels.

General Appearances on Dissection.—The vestiges of disease in the head, consisted in a turgescence of the vessels of the pia-mater, in effusions of serum between the meninges, and in the presence of layers of coagulable lymph. The substance of the brain was almost invariably softer than usual. The pleura had frequently extensive adhesions to the lungs, particularly the upper part, connected with the vertebræ of the back. The lungs offered the following morbid appearances: a condensation of their substance, with a change of colour to purple, or a dark grey, without inflammation; condensation with ecchymosis; condensation with inflammation; an anasarcous state of their cellular substance; a state approaching to suppuration, wherein the lungs were of a dark red colour, soft, and verging in part to a kind of purulent dissolution. Dr Davis says, he has known the whole right side of the lungs to be impervious to the air, so that respiration has only been performed by the opposite side. Effusion into the bronchiæ was one of the common appearances met with in the dissections. The cavities of the thorax and pericardium, were almost always filled with fluid. The pericardium sometimes adhered to the heart, and was inflamed on its inner surface. The pulmonary veins, like the venous system of the greater circulation, partook of the general plethora, and frequently contained dark coagulated blood. The heart was enlarged, and its weight greater than natural; the coronary vein was in every instance distended with blood.

The adipose substance of the omentum was generally absorbed. The peritonæum was inflamed in many instances, and covered with layers of coagulable lymph. For the most part the liver was enlarged, hard, and of a dark purple colour; sometimes it was found very soft, and almost black. On cutting through the substance of the liver, dark blood generally flowed from its vessels. The gall-bladder was mostly distended with bile, similar in colour and consistence to tar. The stomach was found enlarged, flaccid, its coats thickened, and its internal surface corrugated and marked with gangrenous specks. The intestines presented various appearances of inflammation and organic disease in those patients who died of fever and of dysentery. The mesenteric glands were sometimes enlarged and turgid with blood, and the mesentery exhibited the ramifications of inflamed vessels.

In almost every case the spleen was enlarged; it weighed from three to five pounds. It was often converted into a large abscess: sometimes it had the appearance of coagulated blood enclosed in a bladder; and considerable marks of inflammation and its consequences were observed in this organ.

With these facts taken from Dr Davis and Mr Dawson's publications, we leave the subject of the Walcheren diseases to the candid consideration of our readers; not without some regret that no other work has yet appeared which could enable us to bestow more extended attention to the first and earliest symptoms of the destructive malady, as it appeared in the month of August at Flushing. In the beginning the disorder most probably assumed an inflammatory type—the appearances on dissection show, that there was both inflammation and congestion in the viscera. The ordinary method of treatment was completely baffled; and where experience, which ought to justify every measure, did not suit exactly, the defect was supplied by analogy; and the exhibition of mercury seems to have been too readily adopted, because the liver was supposed to be in a morbid condition. The same erroneous view of the diseases of the army of Walcheren, seems to have ensnared the practitioners, at least a great many of them, as of the army of Corunna; and whilst they were apprehending danger from that confounded *debility*, of which so much has been said of late years, the patients sunk from the want of their most urgent symptoms being relieved by bleeding and other evacuations. One precedent is apt to create another. It is the historian's duty to warn though he cannot correct; and therefore these publications may serve as examples to deter other practitioners in the army, from imitating those modes of treatment which did not succeed, and thus be made a source of negative instruction to their successors for ever.

IV.

Acta Instituti Clinici Cæsareæ Universitatis Vilnensis. Auctore JOSEPHO FRANK, Augustissimo Imperatori et totius Russiæ Autocrati a Consiliis Aulicis, Therapiæ specialis et Clinices in Cæsarea Universitate Vilnensi Professore, &c. &c. 8vo. pp. 155. Annus Primus. Hagæ-Comitis. 1808.

Dr Joseph Frank has set an example in this publication, which it is highly to the interest of medical science in general that every one should follow, who has the same advantages of scholastic learning and experience, and presides in the same manner over the education of young men at public institutions. A comparison of opinions at the ages of twenty-five and thirty-five, and a honest declaration of those points in which theory and practice are at variance, must contribute essentially to the correction of many errors which are now suffered to spread their baneful influence over the early period of almost every practitioner's life. We find in the work before us, a very good specimen of this self-examination, for in the introduction to his medical histories and reflections, Dr Frank informs his readers, that he was formerly attached to the very ingenious system of John Brown, although he never assented to every part of it: but he now very candidly confesses, that he ascribed far too much merit to it. Being loosened from the trammels of system, and restored to liberty once more, he anxiously sought after the writings of Hippocrates, Sydenham, and Baglivi, in whose authority he could most safely confide. Although we are disposed to give full credit to his warm commendations of those excellent writers, we do not agree with him, in thinking their works are entirely free from fanciful inquiries about the proximate causes of diseases, or the conjectural operation of remedies. The first interesting article in this little volume, is the description of the hospital at Wilna; the regulations of which show, how much the remote parts of Europe have been benefited by Dr Frank's travels in Britain. The clinical establishment is supplied with patients from an adjoining hospital, which contains about 150 patients; the arrangement of the patients, and the manner of delivering clinical lectures, is the same as that adopted by our author at Pavia, which is familiar to most of our readers. (Vide Ratio Instituti Clinici Ticinensis, auctore J. Frank. Viennæ, 1797).

Baths are attached to the institution, and a chamber for the reception of the bodies of those who die in the clinical wards. This chamber, in the winter-season, is kept warm, and the body is placed on a bed for twenty-four hours; strings are fastened to the hands and feet, and are connected with bells in the room of the nurse, so that if, in case of asphyxia, life should be restored, the circumstance may be immediately made known. This is quite a German caution; it makes one smile at the contrivance; but it does not appear, that the bells have rung, for the restoration of any patient, during the first year.

The clinical wards were opened in 1805, and in the first college year, that is to say, nine months, the learned Doctor had 135 patients under his care. By the assistance of his brethren the professors, he has given the medical topography of Wilna, comprehending a description of its climate, soil, the manners of the people, their diet, habitation, and employments, so far as these general causes may affect their constitution, or influence the diseases to which they are subject. The climate is very ungenial; June and July are the only months which can properly be called summer. The thermometer often rises to 87° Fahrenheit, or more; it seldom sinks under 25° below 0° Fahrenheit; even in May and August, the weather is sometimes very cold; and in December, January, and February, the cold is sometimes very intense. The winds are very uncertain and changeable. The number of inhabitants amounts to between 35,000 and 36,000; and of these, upwards of eleven thousand are Jews, whose notorious inattention to cleanliness, seem to give a decided character to the diseases which prevail amongst them. There is no endemic peculiar to Wilna. Plica polonica is not so common here as on the banks of the Vistula; rheumatism, fluor albus, and hæmorrhoids, are the most frequent disorders; and alas! phthisis and scrofula.

Venereal complaints are common; they rage in country villages, and seem to be propagated without sexual intercourse, in the same way as sibbens spreads in Scotland and Canada; or as more recently described in Dalmatia. Typhus fever seldom prevails at Wilna, unless it is brought by soldiers who are quartered upon the inhabitants. Small-pox commits great ravages from the same cause; and unfortunately some prejudice against vaccination prevails, especially among the Jews. Scarlatina seldom appears, and is said never to have been observed in its malignant form.

After this introductory section, Dr Frank proceeds to relate the different diseases which came under his care, beginning with catarrhal and rheumatic fevers; several cases are detailed under each head, and a commentary, or summing up of evidence, is given on each case. A patient with catarrh, received such decided benefit from being bled, that our author feelingly exclaims against the absurdity of the Brunonian interdiction of the lancet, and judiciously remarks, that the neglect of bleeding in catarrhal complaints, is one cause of the increased frequency of pulmonary consumption. Acute rheumatism is not mentioned under the title of rheumatic fevers; and we find in another part of his work, the author considers this disease as one *sui generis*, differing from febrile disorders accompained by pain and inflammation of the limbs; but he gives no plausible reason for making such a distinction. In the treatment of rheumatism, he recommends large doses of nitrat of potash, (*sal nitri*) and the repeated exhibition of emetics; which practice was strongly recommended by

Dr Hein, a distinguished physician at Berlin; the antiphlogistic regimen, keeping the patient cool, and occasional venesection, are the general means employed. The difficulty in discriminating chronic rheumatism, induces Dr Frank to promise a work upon the point of diagnosis; the title is "*De larvis Morborum Rheumaticis.*"

Of twenty-four cases of typhus, only two died; we are inclined to think, that many of these cases were only such as would be called synochus in this country; mild continued fever, arising from cold and moisture. The remedies employed were emetics, acetite of ammonia, musk, camphor, sulphuret of antimony, hyoscyamus, arnica, seneca, digitalis, acids, bark and blisters. Affusion of cold water was applied in one instance, and with evident advantage; the instance is solitary, because contra-indications are said to have been present: but the grand indication, the increase of temperature, is omitted in the reports, an omission which is of considerable consequence, and one, too, which seems not to be estimated according to its real importance. In his enumeration of fevers, our author makes a division for *febres gastricæ*, and the argument he states for this arrangement is, that these febrile disorders are cured by emetics and purgatives. He rejects the prevalent continental hypothesis of some disorder in the chylopoetic viscera being the cause of these fevers, and seems aware of the absurdity of attributing every morbid action to a cause of that nature; yet he still does not appear to have escaped so completely out of the mud and mire of his former opinions, as to be emancipated from the prejudice about gastric fevers. He falls into the error which he had so justly exposed in the former part of his observations, when speaking of the mischief done by medical nomenclature; for there is nothing in the symptoms or method of cure, to render these fevers necessarily classed among any other diseases than the general one of catarrhal fever.

It appears from the histories of phthisis pulmonalis, that the disease is equally incurable at Wilna as at Vienna. A variety of vegetable substances were exhibited, but without any determinate object in view, as the medicines were often changed, and never administered in large doses. The seeds of the *phellandrium aquaticum*, infused in hot water, (two drams to half a pint) is a favourite medicine in Germany for consumption, and Dr Frank expresses confidence in its virtues. To enlightened practitioners in this country, the greater part of the practice recorded in acute diseases must appear trifling and insignificant; yet the diseases of foreigners are certainly not so violent and rapid in their progress, as amongst us; and, therefore, some allowance may be made for the indulgence of *la medicine expectante.* The bad taste which displays itself in some parts of this volume, is of a similar nature to the bad taste and confused notions displayed by the old medical writers. It is an ill mode of prescribing, where we find an intelligent physician advising two issues to be made in the arm of a patient who was perfectly recovered from the small-pox, for the sake of greater security, (pro majori securitate, p. 66.) and combining six articles together, when the indication might be fulfilled with equal efficacy by two or one. However, there is much to commend; in the first place, the learned author's candour in acknowledging his errors; secondly, his having written his book in the Latin language, which is accessible to all who read for instruction; thirdly, using the new pharmaceutical nomenclature, which is readily understood; and lastly, the zeal which he betrays for the improvement of his profession and his pupils, are entitled to all the praises which criticism has to bestow.

V.

Observations on the Rupture of the Uterus, on the Snuffles in Infants, and on Mania Lactea. By Thomas Denman, M. D. Licentiate in Midwifery of the Royal College of Physicians, London, &c. London, 1810. 8vo. pp. 70.

We are at a loss what to say of Dr Denman and of this pamphlet. Had it been ushered into the world by a younger midwife, we should have had no kind of doubt about regarding it merely in the light of an advertising bill. But Dr Denman ranks high, and deservedly high, both as a practitioner and an author; and his well-earned reputation would have suffered nothing by withholding these seventy pages from the world; at least, this motely pamphlet has no way exalted him in our estimation.

A case which occurred to Dr Denman, led him, it seems, to reconsider the subject of the rupture of the uterus, and to arrive at a conclusion different from that formerly entertained. He is now convinced of the impropriety of delivery in such unfortunate cases, and hastens to tell us so. The other items of the pamphlet are thrown in, for no other purpose that we can disco-

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ver, than to add to the number of pages; for in the way of fact, doctrine, or practice, they contain nothing that is not already more fully and better known than these can teach us. His observations on the mania lactea, he tells us, are merely practical; and yet we do not discover in them a single one that merits that title. In no place does he speak as an experienced practitioner; on no point of practice has he instructed his reader; in no method or remedies has he inspired him with practical confidence; nor has he said any thing on the subject that might not as well, and as instructively, have been said by any unexperienced M. D. who had never seen a case of the disease.

In the year 1790, Dr Denman published, in the Medical Journal, a very faithful account of a malignant variety of snuffles, of which six out of eight of his little patients had died. In the course of that year fifteen children died of it. Absorbents, saline mixtures, cordials, and tonics, seem to have been at this time employed by Dr Denman, but with very little benefit. This is the disease described by Dr Underwood, under the title of *coryza maligna*. The practice now followed and recommended by Dr Denman, in this republication, is, purging with ol. ricini, magnesia usta, rhubarb, or calomel; clysters to assist their operation, when necessary; occasional carminatives and opiates, and particularly the carminative of Dalby, " a worthy sensible apothecary, who formerly lived in Welbeck Street;" fomentations to the nose; the application of the following liniment:

" ℞ Ol. ricini per express. ℈ij.
Amygdal. ol. ʒii.
Opii, gr. iij. ft. Linimen.;" and the tepid bath.

" And since the establishment of this mode of treatment, I have not," says Dr Denman, " seen or known a single instance of any child dying with this disease, though I have seen many cases of apparently very great danger."

With regard to the observations on the rupture of the uterus, the first obvious remark is, that the case which led to these, and to the conclusion that it would be safer to allow the woman to remain undelivered after such an unhappy accident, was not one of ruptured uterus, but of ruptured vagina. After the accident, the first stage of labour seems to have gone on slowly, though regularly enough; and at length, when there was no hæmorrhage of any importance, when the patient was warm, the pulse full and regular, and the os uteri was relaxed, thin, and sufficiently dilated, the delivery was forced, and forty hours thereafter the patient died. Now, this patient, in all probability, would have been delivered by the power of nature alone: and it is next to certain, that she would have also afterwards died; for the fatal event cannot be attributed to the mere circumstance of her having been delivered by the hand of the accoucheur; she died in consequence of the laceration of the vagina, and the descent of the intestines. The propriety of having delivered in this case may justly be questioned; but no part of such a case bears any resemblance to rupture of the uterus. In rupture of the vagina, the function of the uterus may continue unimpaired, and be adequate to the natural delivery of the woman;—when the uterus itself is ruptured, its function is lost, labour stops, the child recedes, or in whole or in part passes through the rent of the uterus into the cavity of the abdomen, an event not so likely to happen in simple rupture of the vagina. The reasons for delivery, therefore, in rupture of the uterus, are, that there is no chance of a natural delivery, and still less of the woman surviving, when the child has passed from the uterus into the cavity of the abdomen, and allowed to remain there; and that it is moreover certain that the child must perish. If the os uteri be fully dilated at the moment of the rupture taking place, the delivery cannot, we think, add to the danger of so terrible a case; if instantly attempted, and speedily effected, the child may be saved; and that the mother has actually recovered after the rupture of the uterus, and delivery of the child, cannot now be denied; Dr Douglas and Dr Hamilton have put this beyond a doubt; and Dr Denman himself, in his introduction to midwifery, speaking of Dr Douglas's case, has observed that it is one of sufficient authority, "to render it in future the duty of every practitioner to attempt, without delay, to deliver the patient."

Rupture of the uterus is itself so terrible an injury, that we cannot expect that many should survive it, whether delivered or not. If she remain undelivered, there is superadded to the danger arising from the rupture, that attendant on the retention of a full grown infant within the cavity of the abdomen. It is true that women have even survived this occurrence, after long and dreadful sufferings. The only thing like argument in favour of non-delivery is, the assertion that there are a greater number of instances on record of recoveries of women who have not been delivered, than of those who have been delivered after rupture of the uterus; but this argument is stated by Dr Denman in far too unqualified a manner. The fact may be perfectly true, and yet be little to the purpose; for the real state of the case, we apprehend to be this, that a prodigiously greater number of women have been suffered to remain undelivered, after the child had passed through a ruptured uterus, than have been delivered; and it is not therefore surprizing, that, in rummaging after recorded *cases, a greater number* of recoveries should be met with; but it does not therefore follow that *the proportion* is greater. Recoveries have happened after delivery; and it seems so unlikely that the mere operation of delivery, when the os uteri is sufficiently dilated, should increase the danger attending rupture of the uterus, or surpass or be equivalent to the danger arising from the retention of the child within the abdomen, that our opinion in favour of delivery, in the case here supposed, remains unaltered,—in the case, viz. of sufficiently dilated os uteri, the accoucheur being with the patient at the moment the accident has happened. If the accident happen at the beginning of delivery, when the os uteri is yet rigid and undilated, the case is more doubtful and more difficult.—There can be no hope of saving the child, and greater danger, because greater violence must accrue to the mother. But in simple rupture of the vagina, unless the child have been forced through the rent, in such a case, for example, as that related by Dr Denman, the delivery may be left to nature.

VI.

An Account of the Remarkable effects of the Eau Medicinale d'Husson in the Gout. By Edwin Godden Jones, M. D. Member of the Royal College of Physicians, and Physician-Extraordinary to his Royal Highness the Duke of York. London 1810. Pp. 96.

The *Eau Medicinale* was announced as a sovereign remedy for almost every disease to which mankind are liable, by M. Husson, the inventor of it, about forty years ago. It was soon found to have really considerable power over the paroxysm of gout, and, notwithstanding the opposition of regular practitioners, it has now acquired on the continent a high reputation in this disease.

Dr Jones passed the winter of 1802-3, at Montpellier, with Mr Crawford of Auchnaver, a gentleman whose sufferings for gout have scarcely ever been exceeded. It was here that these gentlemen first heard of the *eau medicinale*; and their attention seems to have been recalled to it, in consequence of a letter received in 1805, from Dr Chretien of Montpellier, and of a conversation with the Baron de Roll. The very favourable reports received from the Doctor and the Baron, at length determined Mr Crawford, who continued, since his return to England, to suffer severe and frequent paroxysms, to make trial of the remedy. The first trial produced all the good effects that could be hoped for; a speedy cessation of pain, and the entire removal of the paroxysm within forty-eight hours. Having received a supply of the medicine from Paris, he shared it with his fellow-sufferers, and many of his friends experiencing equal relief, the *eau medicinale* began to acquire credit, and to attract the notice of Dr Jones, and other physicians; and as it is now pretty largely imported by the London dealers, the remedy is now more extensively shared out. The opportunities which Dr Jones has had of witnessing the effects of this remedy, now, it seems, coming into pretty general use, have induced him to publish this report.

The *eau medicinale* appears to be a vinous tincture of some vegetable, but of what plant is yet unknown. Its taste is nauseous and bitter, and it is sold in bottles containing two drachms by measure, the dose directed to be taken at once. When taken during a paroxysm of gout, however severe, the pain is relieved in a few hours, the patient falls into a quiet sleep, and next morning awakes nearly or quite free from suffering. But generally he complains of nausea, sometimes he vomits, and, for the most part, on this or the succeeding day he passes several loose bilious stools. The amendment continues progressive, and, by the third day, little more of the disease remains than swelling or stiffness. But besides these effects as an anodyne and evacuant, the *eau medicinale* produces an abatement of fever and irritation; the pulse is often observed to fall, in a few hours, from eighty to sixty, or lower; and a gentle diaphoresis, or sometimes a copious diuresis ensues.

" The ingredient, from which the eau medicinale is prepared, would be a most valuable addition to the Materia Medica. I have therefore taken some pains, during the last two years, to discover the secret of its composition; I wish I could say with success, and that I was able to communicate it to the public. Besides the examination by Cadet and Parmentier, at Paris, it has undergone that of an excellent chemist in London; and the result of their inquiries is, that it contains no metallic or mineral substance, and that it is an infusion of some vegetable matter in wine. Husson himself declares, that it is an extract of a single plant, hitherto unknown in medicine. Alyon asserted, in his Elemens de Chimie, that he had discovered that plant, and that it was the gratiola infused in Spanish wine, and even gave a recipe for preparing it. Dr Wolfe, the Warsaw physician, believes the same thing, and says he has prepared a liquor by

Alyon's recipe, exactly like that of Husson, but admits that he never employed this imitation in the gout, because his patients always insisted on taking the original remedy. I can safely say, that they are both mistaken in their conjecture. I have repeatedly prepared a vinous infusion of gratiola by Alyon's recipe; and find it differ in every circumstance of taste, smell, and effects, from the eau medicinale; and above all, it will not remove or relieve a paroxysm of gout. I have carefully examined all those plants which were conjectured, in France, to have been the basis of the eau medicinale, and a great number of others, whose properties seemed analogous to those of the remedy; but my experiments have only led, in a great measure, to satisfy me, that it is, as the inventor declares, a plant hitherto unknown in medicine."

The cases detailed in the appendix, are proofs of the remarkable efficacy of this remedy, in removing or relieving the paroxysms of gout. We regret, with Dr Jones, that its composition should remain unknown; as secret remedies, however recommended, are naturally received with some degree of mistrust by professional men.

VII.

Considerations respecting the Expediency of establishing an Hospital for Officers on Foreign Service; suggested by the Writer's experience, during the late Occupation of Walcheren. By A. B. FAULKNER, Fellow of the Royal College of Phyicians; Physician to his Majesty's Forces; and Physician in Ordinary to his Royal Highness the Duke of Sussex. London, 1810. 16 pages 8vo.

THIS pamphlet, short as it is, treats of two subjects of great political as well as professional interest; the expediency of communicating to the Medical Board the destination of secret expeditions, and of establishing hospitals for officers when on foreign service.

Dr Faulkner was one of the Medical Staff sent with our late lamentable expedition to Walcheren; and the distress to which he was a witness, could not fail to make a deep impression on his mind, and to excite the most serious reflections. It appears to be the practice of ministers, not to communicate the destination of the military expeditions, of which they are so fond, even to a confidential member of the Medical Board. The bad effects of this want of confidence are incalculable. Ministers leave themselves ignorant of a circumstance, which ought to be taken into consideration, in the determining upon the expediency of every military enterprize. In balancing the advantages or disadvantages which may arise from it, the probable effects of the climate upon the health of the army is often of as great importance, as the military difficulties, and the expence to which it may put the nation. This is the more apparent, if it be true, as Dr F. asserts, and as we firmly believe it to be, that "in all our recent expeditions, disease has been much more fatal than the sword." Ministers, therefore, who undertake these, without obtaining all possible medical information, with regard to the probable loss by disease, must at least be considered as culpably negligent. But even supposing the object of the expedition to be of such high importance, that the waste of human life and health is not to be taken into account, still it is the bounden duty of ministers, to take every precaution to prevent, lessen, and obviate the effects of an unhealthy climate upon the troops, which the nation has entrusted to their management. But it is evident, that, in not communicating with, and consulting the Medical Board, they neglect this important duty, and materially injure the interests of the service. Without a knowledge of the destination and objects of any expedition, the Board, when called upon to furnish their share in the equipment, can only contribute a certain number of medical officers; but they can neither issue to the troops, nor communicate to the military commanders, any instructions with regard to the means of preserving health, nor devise any means of mitigating the severity, and limiting the extent of the diseases to which they may be exposed. Even in regard to number, the medical assistants appointed may be extravagantly numerous or inexcusably deficient. But in neither case is the Board to blame, the fault rests with the ministers, in withholding from them the necessary information.

"Neither should we in that case," says Dr F., "have had reason to complain of a scarcity of medical officers, which at one time was so great, that the sick allotted to physicians, to speak moderately, were thrice as numerous as it was possible for them to attend, so as to satisfy their own consciences, and give to their patients the full benefit of medical advice and assistance. In consequence of this extraordinary accumulation of cases, some medical officers were soon absolutely exhausted by unceasing efforts to perform their duty: though,

though indeed, any idea of duty falls far short of the motive which must prompt any man of feeling, in such a scene of calamity, to use the utmost exertion in his power. Every gentleman appeared perfectly willing to make that exertion; but the number of our staff was so deficient, that all such exertion was comparatively unavailing."—Pref. p. ii.

But not only would a confidential communication with the Medical Board, prevent the dreadful evils inseparable from a deficiency of medical assistants, it would also enable them to select a staff, consisting of those individuals who were best acquainted with the diseases of the climate to which the expedition was destined.

Another, and a very important effect of a confidential communication with the Medical Board, would be the supplying the expedition with abundance of those medicines, ascertained, by long experience, to be indispensably necessary in the treatment of the diseases of the climate to which it is sent. An expedition, fitted out on the present plan, is furnished with the same assortment of medicines, whether it be destined for Rio de la Plata, or Walcheren, Denmark, or the Cape. There is not only a waste of public money in thus sending back drugs, purchased at an immense price in London, to the very country from which they were brought, and great inconvenience in embarrassing the apothecary with the care of a load of useless articles; but, what is much worse, the supply of the medicine most wanted is perfectly inadequate to the demands of the service. The sending large supplies of opium with our troops to Egypt, and Peruvian bark to South America, is only a piece of absurd extravagance; but the embarkation of an army to Walcheren, without an abundant supply of the only article capable of counteracting, in some degree, the certain effects of the climate, amounts to wilful and deliberate murder.

It was stated in evidence before the House of Commons, that while the ague was rapidly thinning the ranks of our army, there was not an ounce of government cinchona left to counteract its progress. Ignorant as our late Physician-General *professed* himself to be of the diseases of Walcheren, when called upon by his *prudent* colleagues to proceed there in person, he was at least sufficiently acquainted with their nature to know, that an immense supply of bark would be indispensably necessary in the treatment of them. But unless ministers communicate and consult with those whom they have chosen to be their medical advisers, and to whom they have given charge of every thing relating to the medical department, the responsibility must rest with them,—and a dreadful responsibility it is.

"If such consultation," says Dr F. "had taken place previously to the sailing of the late expedition to Walcheren, I think it highly probable, that we should not now have to lament the actual loss of nearly 4000 lives, besides the serious injuries which have unfitted for duty so large a portion of the army employed upon that service."—Pref. p. iii.

Having entered at so great length into the subject of the preface, we shall notice that of the work itself very briefly.

"Among the arrangements for the sick on the late campaign in Walcheren, the mode of accommodating sick officers was calculated, in a peculiar degree, to arrest notice, and seems particularly to call for representation.

"The system which invariably obtains upon foreign service, of distributing officers in billets, when they are to be attended by the medical staff, instead of accommodating them collectively in an hospital, is productive of much and serious evil, and this evil was severely felt in Walcheren. In consequence of the distance of their billets from the general hospital, officers were deprived of the facilities of prompt medical attendance, and care of every kind, which was necessary for their condition. The time of a medical officer was wasted in long and circuitous visits to his patients; it was therefore, for the most part, impossible to prescribe for them in proper time; and medicines could not be prepared and brought from the general hospital, when they were most necessary. While there was an immense proportion of sick in hospital, the attention of the physician was required there in the first instance, to regulate the diet and other necessaries; and until that duty was completed, he could not even commence his visits to the officers. It was therefore late in the day, (not unfrequently four o'clock,) before all the officers could be seen for the first time; and before their medicines could be prepared at the general hospital, the time for the evening visit had nearly arrived. It was obviously impossible to employ medicines advantageously, under such circumstances of delay and interruption, so much of their efficacy depending, as it does, on timely exhibition.

"During the absence of their servants, in procuring medicines from the general hospital, to what inconveniences must not officers be liable in critical circumstances of disease. These inconveniences were, indeed, of frequent occurrence. In the case of an officer affected with delirium, when it was most dangerous to leave him alone, for even a few minutes together, I have been obliged myself, more than once, to remain a full hour at his bedside, while his servant was getting my prescription prepared. Thus was the time of the physician,

sician, which unfortunately could be but ill spared, consumed in performing the duty of a nurse.

" The constant and laborious attention required in cases of extreme urgency, often unfitted the servants for their duty. They were frequently under the necessity of watching night and day without relief—a task to which no constitution could be long competent; they were, therefore, sometimes taken ill, and sent to the hospital, leaving their masters altogether destitute of assistance. It was for the most part difficult, sometimes impossible, to procure others to supply their places, as the services of every man appointed to the care of the sick, were so much required for those who daily crowded into the hospital.

" Indeed the inconveniences arising from attending sick officers in billets, were so numerous, that it was impossible for the most zealous medical officer to apply his talents, either with justice to his patient, or any kind of satisfaction to himself."—Pp. 1-3.

" On account of the distances at which sick officers were sometimes distributed, I have known eight cases to occupy more of my time than sixty-five in hospital. How severely must the service suffer from this cause alone, especially as the number of medical officers was so very unequal to the laborious duty which was daily accumulating upon them!

" The delay occasioned by the difficulty of discovering the residence of sick officers, is another circumstance not unworthy to be noticed. I should not mention it, if the same inconveniences were not liable to occur upon a future service, particularly where officers are distributed through large towns."—P. 6.

The truth of these general remarks is established by many very distressing cases, which either occurred in our author's own practice, or were communicated to him by others. They are much more than sufficient to prove, that the evils to which our sick and wounded officers are exposed on foreign service, from the mode of dispersing them through large towns, are great and numerous; and we entirely agree with our author, that they are conclusive in favour of his project, of establishing hospitals for the officers as well as for the privates. Indeed, it would be superfluous to point out the many advantages which would result from such an establishment, properly conducted; and Dr Faulkner, we think, very satisfactorily refutes the only objections which have been stated against it, *viz.* that it would not accord with the feelings and habits of British officers, and that it would be too expensive.

The expediency of Dr Faulkner's plan is also supported by the practice of our active and intelligent enemies, whose arrangements, in regard to every thing connected with the comfort and efficiency of their armies, are in general worthy of imitation. We feel ourselves, on this account, indebted to Dr F. for procuring us the following information from M. Boudriot, surgeon-major of the French military hospital at Middelburg.

1. " Il y a dans chaque ville de garnison en France, et dans un lieu reconnu comme le plus salubre, une maison connue sous le nom d'hôpital militaire, d'une belle et bonne architecture, dont les salles sont elevées, bien blanchies et percées de croisées paralleles, faciles, à s'ouvrir et à se fermer à la volonté des officiers de santé.

" 2. Dans le même hôpital il y a toujours un ou deux pavillons, destinés exclusivement à recevoir les officiers de touts grades, quoique libres cependant de se faire traiter dans la maison qu'ils habitent, et toujours à leurs frais.

" 3. La salle des officiers doit être garnie de lits construits le plus industrieusement possible, et eloignés les uns des autres de trois pieds de France, selon le règlement; separés par des rideaux par decence, et pour pouvoir plus facilement, au besoin, établir un courant d'air.

" 4. Chaque officier doit avoir, à coté de son lit, une petite table, construite avec addresse, pour y recevoir pots à tisanes, deux petites fiolles, un pot-de-nuit, &c.

" 5. La distribution des médicaments se fait de même que la visite des officiers de santé, médecins ou chirurgiens, deux fois par jour.

" 6. Les distributions alimentaires sont faites à des heures fixées ; et deux fois par jour on fait le bouillon avec de la viande de beuf seulement, à moins que le médecin ne préscrive qu'on y mette de la volaille. On y ajoute des legumes, connus sous le nom de céleri, carottes, navets, et poireaux: il faut au moins quatre heures pour cette preparation. La ration est d'une livre de viande par jour pour chaque officier ; de même pour le soldat.

" 7. Indépendemment du bouillon, ou de la soupe, on prescrit encore, selon la volonté des médecins ou chirurgiens-major, du ris, des pruneaux, bouillie, legumes de toutes espèces, roti de veau, mouton, poulets, pigeons, &c. &c.

" 8. Les officiers, de quelque grade qu'ils soient, son placés indistinctement dans les mêmes salles, à coté les uns des autres : cependant, rien ne s'oppose à ce qu'ils soient dans des salles destinées à leur grade, s'il y a possibilité.

" 9. Leur vin est meilleur que celui du soldat; leurs aliments en général de qualité superieure, preparées avec plus de soin, en proportion de la somme qu'ils laissent à l'administration."

" P. S.—En tems de guerre, si le local qu'on aura choisi pour établir l'hôpital général n'est pas assez grand pour y pouvoir recevoir les officiers, on en choisira un autre à proximité, ayant les qualités requises ci-dessus."—Pp. 14, 15.

VIII.

VIII.

Letters on the Cause and Treatment of the Gout: in which some digressive remarks on other medical subjects are interspersed. By the late ROBERT HAMILTON, of Lynn Regis, F. R. S. &c. 8vo. Pp. 194. Lynn, 1809.

DR ROBERT HAMILTON was, for many years, principal practitioner at Lynn in Norfolk. The medical transactions of his life lay within the small circle of an humble and respectable station, and the public are already in possession of the practical works, which he published for extending the boundaries of his art. These letters are a posthumous work: they were originally designed for the private information of a friend who was afflicted with the gout; and the remarks contained in them are founded chiefly on the writer's experience of that disease in his own person for more than twenty years. There is too much false theory, but a good proportion of fact and observation in this book; and although the reasoning about the causes of the gout is as perishable as the gases and the frail modifications of animal chemistry on which it is made to depend, yet the practice inculcated always afforded the author great benefit, and may encourage young practitioners to attempt something more efficient than patience and flannel for the relief of arthritic sufferers.

The only cause which Dr Hamilton allows to have any share in producing a fit of the gout, is hereditary descent: He shows that all the other causes enumerated by authors are nothing more than occasional or accidental stimuli, which, in certain circumstances, excite the gouty action. He will not allow even drinking wine in excess, to be the primary cause of the origin of this disease in a constitution otherwise sound; because, he says, he has seldom known, in forty years practice, a hard drinker afflicted with the gout; and in the town of Lynn, whose population is estimated at 12,000, there are not more than forty people afflicted with the gout, and these are of all ranks, from the gentleman to the porter. The number of wine-drinkers in the town is estimated at three or four hundred; some constantly, others only occasionally. Dr Hamilton thinks there is a morbific gouty fluid. This is a very doubtful proposition. It is by no means clear that any morbid fluid can exist in the human constitution; and it is better to confess our ignorance than to encounter the difficulties which accompany so bold a conjecture. Meanwhile, it is desirable to hazard an explanation of less intricate phenomena.

" The swelling of the foot (says Dr H.) appears manifestly to be owing to the infiltration of a fluid into that connecting medium, the tela cellulosa, surrounding the parts affected, that part of it, I chiefly mean, which contains little or no adipose or oily matter, and even into the cavities of the articulations and mucous sacs in the neighbourhood of such articulations, where they are seated. This, however, is more evident in the mucous sac, under the insertion of the rectus muscle into the patella, than anywhere about the foot. This infiltration, so far as I have been able to judge by inspection, is at first mostly limpid and colourless: but afterwards, by the evaporation of the finer parts, it becomes more inspissated and opaque. That this is the cause of the swelling appears evident, by its subsiding on a fluid's being discharged by any outlet on or near the part, either from a spontaneous crack in the skin, from the great distension, or the application of a blister. I have often emptied the cellular membrane, and reduced the swelling by blisters, in less than twenty-four hours; the discharge being always great, and of long continuance, if the cuticle was removed." P. 81.

As to the best mode of treatment, our author's remarks are clear and peremptory. He considers every attack of gout, in the first instance, as an inflammatory disorder; and therefore it ought to be treated as such, without paying any regard to the fears and apprehensions of retrocession, misplacement, and the like. The same prejudices formerly existed against employing bleeding, evacuations, cold water, and cold air, in eruptive diseases, as small-pox and measles; and since these have been happily overturned, there is no reason why they should continue their baneful influence upon the management of the gout. Those very authors who condemn bleeding and other evacuations in the gout in the extremities, gravely tell you, if it attacks the head, lungs &c. that blood must immediately be taken away: as this is confessedly to alleviate inflammation, why may it not be done with equal advantage, when it is violent in the extremities? From this view of the matter, Dr Hamilton was strongly prepossessed with an opinion that this practice must be attended with the best effects; he therefore lost blood in a quantity proportioned to the degree of inflammation and the state of the pulse, and always with great relief; and although he pursued this method eighteen years upon himself and several of his friends, he never perceived any thing like a retrocession of gout after it. Misplaced gout, we believe, is a very rare disease. Many groundless alarms are entertained about it, and about the atonic gout also; for much of Dr Cullen's speculation on the atonic gout arose from his having it in his own person, or rather in his imagination, for he never had a regular fit. Upon the same principle that Dr Hamilton used bleeding, he was induced to try the effects of calomel and opium, and purgatives, which always gave him great relief. The reader is referred, in a note, to a paper by Dr H. upon the effects of mercury in inflammatory diseases, published in the ninth volume of Dr Duncan's Medical Commentaries, for an account of his reasons for the application of it in those cases, from an opinion of its antiphlogistic properties: and his success in the trials he made of it in contradistinction to the general opinion entertained of its stimulant powers. He left a manuscript continuation of the above paper, which has not yet been published The following is a concentrated view of the mode of treating the gout; which our much esteemed author recommends upon the best of all authority, his own personal experience.

" When the gout attacks a person of a full habit, with symptoms of great inflammation, strong full pulse, and intense pain, blood should be taken away without hesitation, in a quantity proportioned to the violence of the symptoms and strength of the constitution; and a dose of calomel, opium, and tartar emetic, given in certain portions, according to the state of the patient, and repeated according to circumstances: and if the medicine does not open the bowels, which it generally does, at the same time that it promotes perspiration and urine, a suitable purgative should be given to answer the purpose. But if the disease goes on, extending to different parts in succession, for instance the feet and knees, blisters should be applied, but not immediately on the diseased part, but on the inside or outside of the limb, as much as possible upon the course of the large lymphatic vessels: these are constantly attended with the most beneficial effects, discharge prodigiously, and the discharge has strongly that smell so conspicuously peculiar to the perspiration of gouty people, and evidently shows that a great deal of gouty matter is discharged this way.

" Whilst this is going on, the opiate with calomel and tartar emetic should still be taken, and a plentiful dilution with weak wine whey, barley-water, with a little wine or any tepid liquor. When the inflammatory symptoms and pain abate, and debility in the diseased articulations becomes now distressing, wine should be used with greater freedom, and the diet should be more generous, according to the state of the stomach, and the Peruvian bark given in full doses. A thinner covering of bed-clothes should be used when the patient has the gout than at any other time; he should leave his bed as much as possible, and there should be a free circulation of air through the room. No flannels should be worn on the diseased part, and only a pair of thin gauze stockings drawn on when the legs are blistered, to prevent friction from the bed-clothes; though even these, I have found from experience, occasion so great an accumulation of heat and pain, that I am glad to get rid of them.

" I have always freely indulged myself in the use of vegetable acids, and with considerable benefit, not only during the paroxysm, but when in health and free from it, and have strenuously recommended it to others.

"As gouty persons advance into the vale of life, the inflammatory symptoms gradually decline in every succeeding paroxysm, and the disease becomes rather chronic; the rigid limbs are distressed with debility, and frequently chalky concretions are found in their vicinity. In this state the treatment must differ; still, however, gentle doses of the calomel anodyne become of great use in opening the secretions at first, and blisters are of great utility. The patient should use wine liberally, camphor occasionally, and large doses of musk, about thirty or forty grains twice, or oftener, in the day; the bark must be given with freedom, to strengthen the tone of the viscera, with chalybeates and bitters. To prevent chalky concretions and stiff joints, I have long used a medicated water strongly inpregnated with fixed air, and drink a pint daily with or without wine." P. 181, &c.

We have made these extracts from this work, because the practice recommended by the author is of great importance, as it affects the more recent doctrine of applying cold water to gouty limbs, and as it shows the retrocession of the disease to be a mere bugbear of medical speculation. The study of animal temperature has made considerable progress since the death of Dr Hamilton; his attention probably was never called particularly to it, but from the good sense and boldness which he displayed in his own case, even at the time in which he lived, there can be no doubt he would have proved, by experiments on his own person, the salutary effects of the application of cold water.

IX.

A Letter to JOHN HAYGARTH, M. D. F. R. S. *London and Edinburgh, &c. from* COLIN CHISHOLM, M.D. F. R. S. &c. *Author of an Essay on the Pestilential Fever; exhibiting further Evidence of the Infectious nature of this fatal Distemper in Grenada, during* 1793, 4, 5, *and* 6; *and in the United States of America, from* 1793 *to* 1805; *in order to correct the pernicious doctrine promulgated by Dr Edward Miller, and other American Physicians, relative to this destructive Pestilence.* 8vo. London, 1809. pp. 272.

THERE are few subjects of the philosophy of medicine more interesting or important than the theory of contagion. It is not merely an idle speculation, serving only to gratify our natural desire to penetrate into the mysteries of nature, but an investigation of the most extensive and frequent practical application. It influences not only the cure of an extensive class of diseases, but regulates, in a very decided manner, our commercial connection with other nations, and our domestic intercourse. To ascertain what diseases are, and what are not contagious, forms a most important object of inquiry; and inconvenience and misery are the constant consequences of a mistaken opinion. But, in common with other obscure subjects, it is unfortunately a very frequent source of mistake, doubt, and controversy. From the particular circumstances in which we may happen to be placed, a different set of facts may be presented most strongly to the observations of different inquirers, or the same facts may be viewed by them in different lights. Different opinions may be the consequence, and each may be firmly believed to be well-founded, and the result of accurate induction. The conviction thus produced often leads to intolerance. We are mortified that our opinion is not received by all to whom we have explained the grounds upon which we think it firmly established; and we are irritated when our own opinion is represented as arising from negligence in collecting facts, or incapacity in generalizing them. Conscious of our own rectitude, we are apt to consider the charge as proceeding from improper motives, and to repel it with indignation, while, in our turns, we attribute to dulness of comprehension, or obstinate prejudice, our own failure to gain proselytes. In these circumstances, zeal, a most valuable incitement to human energy, is apt to degenerate into illiberality, and it is not easy to conduct the argument without passing the limits of decorum. When, however, all personal abuse is avoided, and the opinions of our adversaries are never wilfully mis-stated, for the purpose of refuting them, nor facts or inferences which we do not believe are advanced by ourselves, to support our own; when, in short, we dispute *bona fide*, believing that we are in the right, and that we argue fairly, a little warmth will be excused by impartial readers, who consider the frailty of human nature, although it is not to be expected that those who maintain the opposite doctrine will consider it so lightly. It is in this manner, that, in many scientific controversies, both parties form too unfavourable an opinion of the integrity of the other, while that of neither is for a moment doubted by those less interested in the dispute.

Of this nature we may consider the controversy about the contagious nature of yellow fever. In a former volume, we reprinted Dr Miller's report on the malignant disease which prevailed in the city of New York in the autumn of 1805, which exhibits a very distinct view of the arguments of the anti-contagionists, and to which the publication now before us may be considered as a very animated reply. In the first part of this letter, Dr Chisholm endeavours to establish four propositions:

1. That his opinion concerning the malignant pestilential fever, as it appeared at Grenada, and the other West India islands, in 1793, 4, 5, and 6, are not singular. P. 23.

2. That this fever, and the yellow remittent fever, are not precisely the same disease. P. 48.

3. That his deduction of the disease from the pestilential state of the ship Hankey, is just, correct, and supported by evidence corroborative of that which he received from M. Paiba. P. 93.

4. That in his letter, published in a mutilated form in the Medical Repository of New York, and quoted by Dr Miller, he has not relinquished the doctrines and opinions he upheld in his Essay. P. 128.

The first and last of these propositions, which are chiefly personal, Dr Chisholm has satisfactorily illustrated by a reference to the writings of various eminent practitioners of the West Indies, and by a comparison of his own statements at different periods.

With regard to the third proposition, the fact seems to be, that, after the arrival of the Hankey at Grenada, a fever, of a very malignant nature, arose, and committed great devastations; and as a disease of so great severity and prevalence was unknown there before, the most natural and most probable inference was, that it was connected with the arrival of that ship, especially as that ship seemed to be the focus from which the disease spread in every direction; and there was no unusual state of the atmosphere, or any other general cause, capable of explaining its origin. The Hankey was one of the ships engaged in the unfortunate attempt to colonize the island of Bulama, on the coast of Africa, and which has since been minutely detailed by Captain Beaver, in his "African Memoranda."

The Hankey sailed from Gravesend, on the 4th of April 1792, in company with the Calypso and Beggar's Bennison, all crowded with colonists of the very worst description. The ships separated in the course of the voyage, and the Hankey remained healthy, until their rejunction in the Bijuga channel, on the 6th of June. At this time, the Calypso, which had made an unsuccessful attempt to take possession of Bulama, "had many persons ill of a fever, but none had yet died of it." Its communication to the Hankey is thus detailed by Captain Beaver.

"When I quitted the Hankey on the morning of the 5th (June 1792), I had left a quiet, clean, healthy and orderly ship, the colonists contented and in good spirits; but when I returned on the 7th, I found a noisy, dirty, disorderly ship, the colonists dissatisfied and dispirited. That such a change could have been operated in so short a time was scarcely credible, but such was the effect of the Calypso's rejunction. The fever, from which the Hankey was still free, had already made its appearance in the former ship; and instead of separating the infected from the well, and taking any steps to prevent the spreading of that dangerous disease, by prohibiting any unnecessary intercourse between the two ships, the whole time, since the arrival of the Calypso, had been taken up in the constant interchange of visits: nay, the affected themselves, the very persons who had the fever on them at the time, had been actually on board the Hankey; and the consequence was, that many days did not elapse before the fever made its appearance in that ship also." *African Memoranda*, p. 54.

On the 22d of June, it is stated, that the fever still continued in both ships, but only one person had yet fallen a victim to it in the Calypso, and none in the Hankey. On July 16th, the Calypso returned to England, with a number of the colonists, who had become dissatisfied and despondent, leaving Captain Beaver at the head of the colony, consisting of 48 men, 13 women, and 25 children—in all 87, and six returned from Sierra Leone.

Every precaution was taken to preserve their health, yet the mortality was dreadful. Upon the 23d of November, the Hankey sailed for the West Indies, and carried away fourteen of the colonists, leaving twenty-three sick, and only four well, besides one sailor.

On the 7th of December 1793, their numbers being reduced to six, Captain Beaver finally quitted the island; and, by comparing the whole lists, it appears,

"1st, That of one hundred and fifty-three embarked at Gravesend on board the Calypso, fifty-five died, or 1 in 2.43. 2d, That of one hundred and thirty-two embarked at Gravesend, on board the Hankey, sixty-four died. 3d, That of six in the cutter Beggar's Bennison, four died. 4th, That of three children born, three died. 5th, That, consequently, of two hundred and ninety-four, one hundred and twenty-six died, or nearly one-half. 6th, That of "fever," so expressly said, forty-eight died, of which number more than thirty died on board the Hankey at Bulama; and, 7th, That of the same disease, with almost certainty from the circumstances stated, although not so expressed, nineteen died, in all sixty-seven of fever." Pp. 102, 103.

Yet Captain Beaver describes Bulama as a *healthy* and fertile island, "produced in one of nature's happiest moods;" and attempts to account for the mortality, in his Observations on the climate of the island.

"This may be thought rather a delicate subject: It may be asked, what can you say good of the climate of that island, where almost all the Europeans died? To which I reply, that the mortality of those Europeans, though in some measure certainly to be attributed to the climate, was much more to the adventitious circumstances which have been already noticed; and I am inclined to think that, independent of its having really been the most unhealthy season of the year; independent of our hard labour, and great exposure during that inclement season; independent, I say, of all these, I am inclined to think, that much of our very great mortality may be attributed to *the uncommon depression of spirits* which our situation produced on the minds of most of our colonists; and I verily believe that I should have died too, if I had ever suffered my mind to have been so subdued. But, how far this despondency may have contributed to our mortality must be left to the decision of physicians." *Memoranda*, p. 367.

From these observations, it is evident, that Captain Beaver did not consider *contagion* as one of the causes of mortality, because he would not have failed to adduce it in defence of the climate of his favourite island; nor can we discover, in the very short notes of the diseases which caused so great mortality among the colonists, any grounds for Dr Chisholm's inference, that it was "direfully contagious." P. 102. Captain Beaver has detailed his own case most fully; and as it is quoted as a particular proof of the contagious nature of the disease, it will not be superfluous to extract notes of it. He was first taken ill on the 10th of August while at Bissao; on the 12th, it is reported that he found himself much better in the cool of the evening than in the middle of the day; on the 17th, his life was despaired of, and on the 18th he began to recover; on the 9th of November, he again reports himself "ill, with a slight fever all day;" and on the 23d, that from the 10th, he had been too ill to keep a journal, and was then scarcely able to scribble a few lines to the trustees, before the sailing of the Hankey; and adds, in a note,

"The letter which I wrote to the trustees by the Hankey, was, I think, dated the 23d of November 1792. It was written during that and the two preceding days, in those intervals, when I had full possession of my senses, and was able to apply myself for a short time to writing, for long I could not. And each of the first two of those days, as well as for several before, I was delirious, generally from about 10 A. M. to 2 or 3 P. M. and this was the case in almost all the severe attacks of fever which I afterwards had. This was owing to the excessive heat between these hours, for I invariably got better when the sun declined, and never experienced the violent raging of the fever, till the sun had again acquired power on the following day." P. 161.

On the 9th of December, he was again feverish; on the 13th, delirious part of the day; in the evening, he sent for the only two subscribers able to move, made his will, and gave them directions in case of his death; and on the 17th began to recover. On the 4th of November, when he was in health, he married a couple, who both were taken ill a few minutes after the ceremony was performed, and continued ill until the 14th December, when both died; and one of the two colonists who assisted in making his will on the 13th, died on the 15th. As Dr Chisholm particularizes these three cases, as instances of the infection having been communicated from Captain Beaver's own person, we are inclined to infer that there were no conclusive proofs of the infectious nature of the fever at Bulama.

We shall now briefly trace the progress of disease on board the Hankey. When she sailed on November 23d, only two of the crew were slightly ill; and what was singular, during their whole stay, she had not buried one. On the 25th, a colonist and a seamen died; on the 26th anchored at Bissao,--two colonists and a seaman died; 28th, a seaman; Dec. 1st, a colonist, 3d, three of the crew taken ill of the fever; 4th, ship ran aground; 7th, all hands on board sick; 8th, two seamen died; pinnace, which had been sent to Bissao to procure assistance, returned at noon, and all the people who came in it were taken ill; 9th, got afloat,—two died; 10th, one died; 11th, one; 12th, one; 13th, anchored again at Bissao,--one died; 19th, one; 30th, one; January 13th, one; 23d, received two seamen from the Charon; 26th, two more from the Scorpion; February 4th, one of the seamen received from the Charon died; 14th, arrived at Barbadoes, 16th, at St Vincent's; 19th, at Grenada; July 23d, received six fresh hands, and sailed for England, where the Hankey arrived October 2, 1793, without having lost a man during the last eight months, or since ten days before her touching at Barbadoes, and fifteen before her arrival at Grenada.

Whether, under these circumstances, the Hankey could have imported a contagious fever into Grenada, may with many be a subject of doubt, and will chiefly rest upon the evidence brought forward by Dr Chisholm in his several publications. The impossibility of the Hankey being the source of the Grenada fever, so strongly urged by the anticontagionists, particularly Dr Smith, (Med. Rep. v. i. p. 459) on the authority of Mr Paiba, is completely refuted by the extracts from the Hankey's log-book. For example, Dr Smith states,

3. If the situation of the Careenage, and the weather of the year 1793, appear to countenance a different opinion than that of Dr Chisholm, as to the origin of the Pestilential Fever of Grenada, a no less formidable argument may be deduced from his own representations concerning the time of its first appearance in that year. For, in p. 91, the Doctor remarks, that 'in the short space of time from the beginning of March to the end of May, 200 out of about 500 sailors, who manned the ships in the regular trade, died of this fever.' By this it appears that the fever in question broke out as early as the beginning of March. The inconsistency of this author is particularly evident from this quotation, if the period of the commencement of the disease be correctly assigned. And that it is so, is probable from the difficulty of mistaking the fact; as there must have been thousands of witnesses to the progress of the fever. That the Hankey did actually not arrive till towards the latter end of March, is verified by the concurring testimony of Mr and Mrs Paiba, and of Mr Bell, of this city, who happened to be in Grenada about that time, and was personally acquainted with Mr and Mrs Paiba in that island. So that, if the disease commenced as early as the first of March, Dr Chisholm has inadvertently disproved his whole account of its origin; and it is clear that the Hankey (which did not arrive till after the 19th of March instead of February) could not have introduced it."—P. 474.

Now, we actually find, that in this important fact, Mr Paiba's testimony is false, and that Dr Chisholm is perfectly correct in stating that the Hankey arrived at Grenada, on the 19th February. In the same manner, the log says nothing of those repeated fumigations and purifications stated by Dr Smith, on the authority of Mr Paiba, and specifically mentions, that the Bulama baggage was delivered up at Standgate creek, which Captain Cox had assured the gentleman who had chartered her at Grenada, was destroyed at Grenville bay. These facts completely destroy the effect of the testimony of M. Paiba and Captain Cox.

The second of Dr Chisholm's propositions is the most important, and one in which, after a full consideration of the evidence on both sides of the question, we concur with him. That a remittent fever, not contagious, and arising from local circumstances, has always prevailed in certain situations of the West Indies and America, is universally allowed; and we have already, on more that one occasion*, stated the reasons for our belief in the existence of a contagious fever; and we have no doubt that the disputes concerning the contagious nature of the *yellow fever* are to be ascribed, in a great measure, to that appellation being given to both.

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* *See Edin. Med.* Journal Vol. i. p. 348, and Vol. vi. p. 235.

The second part of Dr Chisholm's letter contains a critical examination of Dr Miller's report; but we must pass on to the important documents in the appendix, particularly the letter of Dr Gordon, from which we quote the following passages:

" The pestilential fever first appeared in St Croix in the month of September 1793. It was brought there by the brig Lougen, belonging to the royal Danish navy; to the crew of which the infection was communicated on the following occasion. A hurricane, or rather a violent gale of wind from the south, drove on shore most of the vessels that were lying in the harbour of St Thomas. The brig was sent by the government in St Croix to assist the sufferers, and the sailors, from being obliged to go on board the different vessels, had communication with their crews. Some of the vessels were from Grenada and other English islands, where the pestilential fever was then raging, and had done so since the month of March preceding. The brig was perfectly healthy at her departure from St Croix, and had been so since her arrival in the West Indies, not having for several months lost a man.

" The weather was rainy, stormy, and uncommonly warm; Fahrenheit's thermometer seldom being as low as 83, and sometimes rising to 93. After a fortnight's absence the brig returned, and landed immediately thirty-two sick. She had lost six in St Thomas, and I believe left some too dangerously ill to be removed. The sick were all under my care, and in the course of three weeks amounted to sixty-two of the inferior part of the crew, of which number seventeen died, and two cadets of the navy out of five or six officers infected. Of the whole complement, which, including officers, amounted to eighty-four men, only four escaped infection.

" From the brig it was communicated rapidly to most of the European and North American vessels in the harbour, the crews of which were generally healthy before her return, and were more or less infected in proportion as they were more or less accustomed to the West India climate. On that account the crews of the droghers or coasting vessels were but partially infected." Dr Chisholm, p. 218.

" It appeared at various times in the hot months of 1796, 97, 98, and 99, and was principally introduced by American vessels, and those from St Thomas, but more frequently by the former. We were on our guard against it; and whenever the fever appeared we traced it to its source, turned the vessel out of the harbour that brought it, cut off all communication of the infected with others, and if they had been brought on shore, or the disease anywhere appeared, took every precaution to prevent the further spreading of its malignant influence. Hence, though frequently imported, it was never general in the years above mentioned." P. 222.

PART III.

MEDICAL INTELLIGENCE.

Report of Diseases treated at the PUBLIC DISPENSARY, *(near Carey-Street,) London, from Feb. 28th to May 31st* 1810.

Acute Diseases.

	No. of Cases.		No. of Cases.
Quotidiana	1	Arthritis rheumatica	8
Tertiana	3	Rheumatismus acutus	4
Synochus	10	Erysipelas faciei	1
Ophthalmia	1	Erythema nodosum *	1
Cynanche tonsillaris	2	Scarlatina	1
Peripneumonia	11	Herpes zoster	1
——— notha	2	Dysenteria	10
——— post rubeolam	3	Catarrhus	98
Pleuritis	3	Pertussis	1
Carditis	1	Epistaxis	2
Hepatitis	2	Odontalgia	2
Enteritis	1	Hydrocephalus acutus	2
Peritonitis	3	Febris infantum	15
Hysteritis	1	Abortus	1
Cystitis	1		

Chronic Diseases.

	No. of Cases.		No. of Cases.
Cephalæa	20	Gastrodynia	10
Vertigo	4	Pyrosis	3
Hemicrania rheumatica	3	Hæmatemesis	2
Cynanche chronica	3	Icterus	1
Amaurosis	1	Constipatio	2
Catarrhus chronicus	51	Diarrhœa	15
Asthma	2	Enterodynia	10
Hæmoptysis	15	Colica	2
Phthisis	24	——— pictonum	2
Palpitatio	3	Peritonitis chron.	2
Pleurodyne	2	Tænia	1
Dyspepsia	10	Lumbrici, et ascarides	3

Chronic

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* *See* Dr Willan on Cutaneous Diseases, Order III. Gen. VI. Spec. 6, *page 483.*

CHRONIC DISEASES continued.

	No. of Cases.		No. of Cases.
Marasmus	8	Ascites	2
Hæmorrhois	4	Hydrops	5
Nephralgia	4	——— post scarlatinam	1
Dysuria	5	Scrofula	1
Menorrhagia	7	Rachitis	1
Leucorrhœa	19	Aphthæ	2
Amenorrhœa	4	Purpura simplex	2
Dysmenorrhœa	2	——— hæmorrhagica	2
Cancer uteri	2	Scabies	8
Hysteria	8	Urticaria	2
Epilepsia	2	Lichen	1
Hemiplegia	8	Psoriasis	5
Paraplegia	1	Porrigo	1
Tremor	1	Prurigo	3
Asthenia	21	Impetigo	9
Rheumatismus chronicus	25	Intertrigo	2
Anasarca	2	Strophulus	2

From the beginning of March to the present time the wind has blown from the east, with almost unvarying regularity. Of course the whole season has been cold, and ungenial both to animal and vegetable life; there has been a considerable degree of indisposition prevalent, and vegetation is unusually late in its progress. During March and part of April, the weather was damp as well as cold; but the last six weeks have been dry, with the exception of a day or two in the middle of May. For a little time past, a pleasant warmth has prevailed during the greater portion of the day, but a chillness has generally succeeded in the evening, which has been particularly complained of by invalids.

The number of applicants to the dispensary has been beyond the usual average, amounting to about 560; and the disorders of a large majority of these were such as usually derive their origin from the action of cold. Catarrhal affections have been numerous, and of an acute nature, being attended in a great many instances with a considerable degree of fever, and confining the patients for a few days to their chambers. The cases of intermittent fever, which were not very severe, originated in London, the patients having all resided entirely in town for some years back. The acute diseases have been chiefly of an inflammatory nature; and the single cases of scarlatina and pertussis afford the only examples of contagious disease, which have claimed our attention. We are sorry to observe, however, that the weekly bills of mortality have announced a considerable increase of deaths by small-pox, during the last fortnight. During the preceding month the average weekly mortality from that disease was only nine: but within the last week thirty-one, and in the preceding twenty-eight persons are recorded as being cut off by small-pox.

The two cases of that hitherto inexplicable disease, the *purpura hæmorrhagica*, (in Dr Willan's nomenclature) or hæmorrhœa petechialis, terminated fatally from the excessive loss of blood. In the one case, the petechiæ began to appear during a severe salivation, which had been accidentally induced by a few grains of mercury, given, as we were informed, in combination with opium, for the cure of rheumatism. Great debility ensued; and, after suffering a constant oozing of blood from the mouth and nose, frequently expectorating it, and passing it from the bowels, the patient died. In the second case, which occurred in a boy 13 years old, no cause could be assigned for the malady. He suddenly became weak and languid; and, in the course of a day or two, his skin was observed to be spotted with dark purple or livid spots, about the size and form of the areola of an ordinary flea-bite: his appetite failed with his strength and spirits; the abdomen was tense and tumid, especially in the epigastrium; and he complained of some uneasiness in that region. About a week after the appearance of the petechiæ, some oozing of blood took place from the mouth and nose; on the following day a more severe hæmorrhage occurred; the bleeding from the nose and mouth became incessant; he brought up blood by vomiting and by coughing, and discharged it by stool: and after passing nearly two nights of unceasing hæmorrhage, he died. His gums were not in the least spongy. Although dissection brought to light a considerable morbid growth, it did not afford the means of explaining the disease. A large heart-shaped tumor, occupying the situation of the thymus gland, and firmly attached to the sternum, clavicle, pericardium, and every surrounding part, was found on opening the chest; its texture was firm and fleshy, with a nucleus or centre of a whitish colour, and cartilaginous hardness; and the whole weighed about half a pound. There were some spots, occasioned by effused blood, on the surface of the heart, and the stomach, which last was much distended with flatus. The liver, and all the other abdominal viscera appeared to be unusually sound. Medicine afforded him no relief: purgatives, cordial bitters, with sulphuric acid, ultimately given in great profusion, appeared to be equally inert. The boy, though delicate and of a sedentary disposition, had enjoyed a moderate share of regular health; nor had his respiration been observed to be disturbed by ascending the stairs, or other active exertion, notwithstanding the diminution of the cavity of the thorax by the large morbid growth.

The diagnostic symptoms of *carditis* are very far from being determined among medical writers, scarcely two of whom agree in their description of the phenomena of the disease; and as the patient, in the instance mentioned in the foregoing list, recovered, that ocular demonstration, which would be satisfactory to the anatomist, cannot be adduced. Of the eight characteristic symptoms specified by Dr Cullen *, the *pyrexia* is perhaps the only one upon which all the writers on the subject are agreed, some having left one and some another out of the account; and of the three, which have been supposed, conjointly with the symptoms of pneumonia, to characterize inflammation of the heart, namely, irregular pulse, palpitation and syncope, each or all of them are admitted to be occasionally absent by our ablest pathologists †. The following symptoms, however, do not appear to be referable to any other disease. The patient, a married woman, about 36 years of age, after complaining for a day or two of languor, anxiety about the præcordia, and pain in the occiput, was attacked in the night with frequent fits of syncope. When visited the following day, she was sitting up in bed, leaning a little forwards, and complained of a distressing pain about the region of the heart; the countenance expressed much anxiety; the breathing was short and oppressed; an occasional dry cough teazed her; and she was altogether sleepless. The stomach rejected by vomiting every thing that she swallowed, almost immediately. The tongue was white and dry; and the pulse frequent (about 130) and small, but regular. Twelve ounces of blood taken from the arm, and a cathartic of calomel, which was retained by the stomach, produced no decided alteration in the symptoms, which, however, were not worse on the following day. A repetition of the bleeding gave great relief for many hours, and a less severe return of the pain was removed by cupping; after which, although the syncope returned occasionally for a day or two, she rapidly recovered. The excessive sickness, which at the first view suggested the notion of inflammation of the stomach, is not generally considered as a symptom of carditis; but Dr Darwin, whose acuteness of observation is unquestioned, concludes his definition of the disease with the words, "constant vomiting *." On the day when the second bleeding was performed, the pulse was somewhat unequal in its beats, but it did not intermit.

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* Nosol. Method. Gen. XIII. *Carditis.* "Pyrexia; dolor in regione cordis; anxietas; spiritus difficilis; tussis; pulsus inequalis; palpitatio; syncope."

† See Baillie's Morbid Anatomy, pp. 16 and 42.—2d edit.—and Davis on Carditis.

London, June 4th, 1810. T. B.

Letter from Dr Laird, *Physician to the Public Dispensary, on the use of Rectified Oil of Turpentine in Tænia.*

In consequence of the reference made by my friend and colleague Dr Bateman, in the last report from the Public Dispensary, to the exhibition of the rectified oil of turpentine as a remedy in tape-worm, I am led to transmit, for insertion in the Edinburgh Journal, a statement of the two cases of that affection in which I have had occasion to direct its employment.

February 1. 1810.—John Dodds, middle-aged, a pearl-frame worker, states himself to have laboured under tape-worm for some years, and that the portions, which he has passed at different intervals, have come away from him alive.

February 5th.—Yesterday morning at nine o'clock, two ounces of the rectified oil of turpentine were administered to him at the Dispensary, fasting. He felt the medicine warm like a dram, and rising at intervals on his stomach, but experienced no sickness. About half after one, he had a scanty stool, of a clayey appearance, with some shreds resembling coagulated lymph. About two he felt giddy. At three, when I visited him, his pulse was 120, and the giddiness extremely distressing, but he had no disposition to vomit, or pain in his bowels. He complained, however, of headach; his tongue was white, and his skin warm. As the oil of turpentine had produced no purgative operation, he was directed to take some castor oil, which by accident he did not get. At four he had a copious stool, with which a tape-worm (six yards in length) came from him, but dead, and, as he expressed himself, not so brilliantly white as what he used to void. He had within a short time three or four more stools, loose, and mixed with some shrivelled pieces of worm; but the giddiness, pain of his head, and thirst, with an unpleasant taste in his mouth, remained the whole of the evening.

His pulse is now (one o'clock P. M.) 84; his tongue rather white, and he complains of some thirst, of general lassitude, and considerable tremor on walking; he is however able to pursue his occupation. He has had no pain or uneasiness in his bowels, or difficulty in voiding his water. Skin soft and cool. One green-coloured stool this morning.

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* See Zoonomia, Part II. Class ii. Ord. i. Gen. 2. Spec. 7.

February 8th.—He took half an ounce of castor oil the day before yesterday, which procured several stools, in none of which was there any appearance of worm. He still complains of giddiness and some tremor.

In consequence of the continuance of the tremor and nervous debility, to which, on further inquiry, it appeared he had been liable previously to the use of the oil of turpentine, and the supervention of some other symptoms, probably wholly unconnected with its exhibition, he remained upon the list of patients for a considerable period, (not being discharged till April 16,) during which time he neither had return of the abdominal pains he formerly laboured under, nor did any worm appear in his motions.

April 19th 1810.—Samuel Marsh, 28 years of age, by trade a shoemaker, has been for four years affected with tape-worm, which has repeatedly passed from him alive, in separate joints, and in connected portions, even without taking any purgative remedy; and not unfrequently single joints have come from him, while sitting at his work. He voided a portion of worm yesterday.

April 23d.—He took yesterday morning at the Dispensary, on a fasting stomach, two ounces of the rectified oil of turpentine, without suffering any disagreeable heat of stomach or sickness from it. In an hour it operated as a brisk purgative. The stools consisted principally of a thick slimy matter, but there was, according to his report, no worm. During the day he experienced some giddiness, but to-day he is quite free from it, and has entirely lost the gnawing and abdominal pains, from which he had formerly had much distress. He stated that, in the course of the evening, he made much water and sweated considerably.

He continued to attend at the Dispensary, till the 17th of May, when, remaining entirely free from all uneasiness in his stomach and bowels, and there having been no appearance of worm, he was discharged.

Whatever opinion might have been entertained respecting the purgative operation of turpentine under its different forms, and particularly obnoxious to insects as the rectified oil has been long known to prove, yet its application to the removal of the parasitic inhabitants of the human intestines was but partially and imperfectly understood; and we were altogether ignorant that a fluid, possessed of such strong sensible qualities, and which had hitherto been employed in comparatively small doses, and with much precaution, could be administered in such large quantity with perfect impunity. It is to the inquiry instituted by Dr Fenwick, with which, as has been already stated in Dr Bateman's report, I became acquainted through my friend Dr Southey of Durham, that we are indebted for the introduction of a very efficient addition to our anthelmintic remedies, while the repeated trials, which have been made, have fully determined the safety of the practice. As a communication on the subject has been laid before the Medical and Chirurgical Society by Dr Fenwick, and the results of this mode of treatment, under the immediate superintendence of many practitioners in the metropolis, will probably be made public at no distant period, in the expected volume of the memoirs of the Medical Society, it is not my intention to enter into any detail of these observations. To the brief enumeration by Dr Bateman of the principal facts connected with the administration of the oil of turpentine, I shall only add, that it has been given even to the extent of four ounces for a dose, without producing any manifest constitutional or local injury. It would appear that this remedy, which seems to act as a poison to the worm, is most effectual when given by itself, in which state it is to many individuals not unpleasantly stimulating; and that the distressing symptom of strangury is more likely to occur, if it be employed in small doses, than when exhibited in sufficient quantity to ensure its purgative operation. It may therefore be a question to be determined by future experience, whether combining the oil of turpentine, or rather following up its employment with some active cathartic medicine, might not answer an advantageous purpose. There is, I think, reason to hope, that this remedy will also prove efficacious in expelling the other worms which infest the human body; while, from the quick relief which it gives to horses affected with the dry gripes or spasm of the intestines, it may perhaps be worth trying in such cases of colic as do not readily yield to the ordinary modes of treatment.

In adverting more particularly to the cases which are the immediate subject of this communication, we find in Dodds the efficiency of the remedy clearly proved, as well as its poisonous influence on the worm distinctly ascertained; for on former occasions, even when purgatives had been used, it uniformly came away alive, but now it was discharged dead, and so far differing in its appearance, as to attract his own attention to the circumstance. The purgative effect of the oil of turpentine was, however slowly produced, and the giddiness and febrile disturbance were more considerable than is usually the case.

In the other instance (that of Marsh), where joints of tape-worm had been passed only four days preceding the exhibition of the oil of turpentine, it is difficult to reconcile the non-appearance of any worm in the stools, with the subsequent freedom he enjoyed from all the painful feelings which had been previously experienced. Should we be authorised in conjecturing, that the action of the intestines on the dead worm might so far have broken its texture as to give only the thick slimy stools of which this patient spoke? To his report alone I was under the necessity of trusting; as at Dispensaries, the subjects of experiment are frequently less directly under inspection, than in Hospitals, or in private practice. It was on this account, that, in both instances, the dose of the remedy was administered at the charity, in order that one of the sources of fallacy in medicine might be avoided.

London, May 10.

Analysis of Tobacco.

Vauquelin has published two papers on the analysis of tobacco, in the *Annales du Museum*, in its fresh and in its prepared state. He bruised in a mortar the fresh leaves of the *Nicotiana latifolia*, expressed the juice through close linen, and filtered it through paper. The filtered juice reddened strongly turnsole paper, was precipitated by oxalate of ammonia, nitrate of silver, infusion of galls, and acetate of lead, and formed coagulated flocculi, by a heat of 212. When precipitated by acetate of lead in excess, the liquor had a yellow colour, the characteristic odour, and all the acrimony of the tobacco. Suspecting these to depend on the presence of a volatile oil, the liquor was subjected to distillation, and the product had merely a herbaceous smell and little taste. What remained in the retort, when mixed with a little potass, or ammonia, exhaled an odour so pungent, that it excited sneezing and a flow of tears. After the addition of potass, and being diluted with a little water, it was again subjected to distillation, and the product now had the smell of tobacco smoke; was extremely acrid, and produced a sensation as when snuff gets into the throat. It was not possible, however, to obtain this acrid principle separate by distillation, as the greatest part of it always remained in the residuum in the retort. Hence it would seem, that its volatility was diminished by its combination with the malic acid. This acrid principle has also little smell when dissolved in water, which indicates that it is not very volatile; and it seems very indestructible, as, after being mixed with a large proportion of oxymuriatic acid, it retains all its acrimony, when the acid has spontaneously evaporated. To obtain it separately, the liquor containing it was slowly evaporated, and treated with alcohol, which in fact separated it from other principles; on evaporating the alcohol afterwards, some traces of a brown oil were remarked on the surface of the liquid, and the distilled spirit acquired more acrimony, as the process advanced to its termination. This oil which was almost solid, gave out, when put on hot coals, a thick smoke, having a smell of tobacco, so strong as to be almost insupportable.

Instead of precipitating the tobacco juice, coagulated by heat, by acetate of lead, as in the preceding process, it was alternately evaporated by a gentle heat, and allowed to cool. In this way it deposited a large proportion of malate of lime. When it ceased to furnish any crystals, it was treated with alcohol, to separate the remaining albuminous matter, which was prevented from being coagulated by the heat, in consequence of its being dissolved by the acids. The alcohol, when distilled off, carried nothing with it. The residuum was dissolved in water; the free malic and acetic acids, were accurately saturated with potass, and the solution was distilled to dryness, taking care that it should not be rendered empyreumatic. The distilled water was colourless, but had an insupportable acrimony. The residuum, however, was still acrid. By repeating the solution and distillation a considerable number of times, it was entirely deprived of its acrimony, which was transferred to the distilled water.

The result of this analysis is, that tobacco, besides this acrid principle, on which its properties depend, contains a great quantity of albuminous matter, supermalate of lime, acetic acid, nitrate and muriate of potass, muriate of ammonia, and a red matter, soluble in alcohol and in water, which swells and is charred by heat.

These processes, with the necessary variations, were repeated on prepared tobacco, which was found to contain, besides those matters found in the fresh plant, carbonate of ammonia and muriate of lime, proceeding, Vauquelin thinks, from the decomposition of the muriate of ammonia by the lime, which is added to give it pungency. On this account, the infusion of prepared tobacco is alkaline, while the juice of the fresh plant is evidently acid; and it is owing to the presence of the carbonate of ammonia, that white fumes are produced on approaching muriatic acid to snuff. The infusion of tobacco distilled in *balneum mariæ*, gave a product which had the smell of tobacco smoke; an acrid and even caustic taste, like that of tobacco smoke, or even snuff itself when it gets into the throat; with infusion of galls, it gave a precipitate which was soluble in alcohol and in the alkalies; with acetate of lead and nitrate of mercury, a precipitate soluble in acids; when mixed with muriatic acid it was not destroyed,

stroyed, but recovered its acrimony when the acid was dissipated Vauquelin did not succeed in finding this principle in other plants of the same family. Spanish tobacco contains about one-tenth of red ferruginous earth, to which its colour is owing.

Tympanum Successfully Perforated in Cases of Deafness.

M. Hunold, physician to the garrison of Cassel, has perforated the tympanum in nearly one hundred cases of deafness; and the operation is said to have proved successful in upwards of two-thirds of those cases. It even appears to have succeeded in cases where the loss of hearing could not be attributed to obstruction of the eustachian tube.—*Journal de Medicine et de Chirurgie Pratique de M. Hufeland, June 2d* 1806.

There is also an article in Les Annales de Medicine d'Altenbourg, on the same subject, from which it appears, that the perforation of the tympanum has been successfully performed by Hunold, Himly, and Michaelis. It appears from Haller's correspondence, that this operation was practised long before the time of Mr Cowper.

« Est Lutetiæ homo quidem *Eli* dictus, qui surditatem curare audet, dummodo malum non a paralysi nervi septimi paris orietur. En vero ejus methodum. Tympanum exscindit, et subposititium immittit. Fecit vero experimenta quædam, quæ satis bene ipsi cessarunt." (Epistolæ ad Hallerum scriptæ).

Use of the Phellandrium Aquaticum in Pulmonary Complaints.

The seed of the phellandrium aquaticum has been highly recommended as a remedy in phthisis pulmonalis, by several German physicians, and particularly by Stein, Hertz, Schnerman, and Struve. The dose, a few grains two or three times a-day, gradually increased to the extent of a drachm in twenty-four hours. M. Thomassin à Thuessink, a Dutch physician, has published a paper on this subject, in Les Annales de Medicine, Ecrague 1807. According to his experience, the phellandrium has a very decided operation on the pulmonary organs, as an anodyne and expectorant; and it is even asserted, that it communicates its peculiar odour to the expectoration. Though it cannot be said to be equal to the cure of confirmed phthisis, it appears to alleviate the symptoms and retard its progress, and to be very efficacious in chronic catarrh and coughs.

Plan of the Glocester Vaccine Association. Communicated by Dr Baron.

To the Medical Practitioners in the County of Glocester.

We, whose names are hereunto subscribed, beg leave earnestly to address our brethren in the county of Glocester, on a subject that is equally connected with the reputation of our profession, and the safety of the community. The subjoined resolutions are declaratory of our sentiments, and of the means that we think should be adopted to give them effect. We are convinced of their utility and propriety; and we trust that they will soon be admitted and acted upon by every medical man. It is deemed perfectly unnecessary to make any remarks upon the evidence on which they are founded. Luckily for mankind, the efficacy of cow-pox has been ascertained by the severest tests; and the prejudices and misconceptions which prevail against it, only require to be dissipated to secure its universal adoption. While we, in common with the majority and most respectable of our brethren in every part of the world, rest confident in this belief, we nevertheless think that much may be done to accelerate a triumph which we all anticipate, by promoting the scheme now proposed. It is not brought forward to draw the unthinking, or unwary, into a measure which their more mature deliberation may condemn. None are called upon to support it, who have not fully examined the evidence in its favour; and none ought to support it, who entertain the slightest doubts respecting the conclusions to which that evidence leads. More than sufficient facts have been accumulated to enable every competent judge to come to a decision. Every conscientious man is bound to come to a decision—the public have a right to demand it—and we think it should no longer be withheld.

In submitting the present plan to the members of our profession in this country, we joyfully look foward to consequences of the most beneficial nature. The combined and unequivocal testimony of those who have longest known the advantages of vaccination, who have watched its progress with the most anxious care, and who, from their local situation, have been constant witnesses of the caution, the skill, and the talents, evinced by the illustrious individual who first gave it to the world, must have the effect of removing the fatal errors which have lately induced misguided persons to send many of their fellow-creatures to an untimely grave, by the wilful and wanton propagation of a most pestilential and dangerous disease. It is right that we should be foremost in an attempt of this kind—that we should set an example which, we trust, will be followed by every district in the kingdom—that we should mark our high sense of the value of the discovery to which this county has given birth, by cordially and collectively promoting it on all occassions, and principally by determining to check, by every possible means, the ravages of that distemper which it is now in our power to extripate entirely.

It only remains for us to illustrate our plan, by adding the following resolutions, founded as they are on the highest sense of public utility and professional duty.

Resolved,—I. That we see with regret the prejudices hostile to vaccination which exist in this neighbourhood.

II. That the honour of our profession, and the reputation of this county, require that every possible means should be employed to dispel them.

III. That those gentlemen who are satisfied of the efficacy of vaccination, be requested to unite with us in forming a society, to be called "the Glocestershire Vaccine Association."

IV. That the objects of this association shall be to promote cow-pox and discourage small-pox inoculation.

V. That, with this intention, the members of this association shall individually and collectively declare, that they, considering their knowledge of the cow-pox, do not believe themselves entitled either to practise, or, in any way whatever, to sanction, the use of small-pox inoculation *, and that henceforth they renounce it accordingly.

Resolved, *further*,—That the foregoing address and resolutions be printed in the Glocester and Cheltenham Papers; that copies of them be sent to every Medical Practitioner in the county; that those members of the association who are resident in Glocester, (as being the most central part of the county), be requested to act as a committee to receive communications; and that a subscription be opened for defraying the necessary expences.

Signed by Thirty-three Practitioners.

The third Report of the Nottingham Vaccine Institution. Communicated by Dr CLARKE.

> "As all knowledge and wisdom must be allowed to be communicated by the mercy of Divine Providence for our good and protection, is it not insolence or blasphemy in mankind to reject or decry those means of mitigating human misery, which Heaven has imparted, and we ought to receive and use with humility and thankfulness? This is a justice which cries from their dying infants, against unpersuadable parents, who ought to have been more attentive to the means of saving the lives entrusted to them, and which probably had been saved by inoculation."

IN commencing the third report of this Charity, it is necessary, for the satisfaction of the public, to give some account of the epidemic small-pox, which, during the last winter, appeared in all parts of this populous town;—and to shew that the Institution did not tamely survey its progress, but adopted every possible means to lessen the havoc, and alleviate the misery produced by this dreadful contagion.

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* Unless in *a* case of *extreme* necessity; for example, the small-pox breaking out among persons who have never had that disease, where no vaccine matter can be obtained.

Some few instances of small-pox appeared in the town during the summer, but in autumn the disease became very general, and increased with unusual mortality until the succeeding spring, when it gradually became milder, and finally disappeared. The beginning of this epidemic was clearly traced to the neighbouring villages, where the contagion had been long industriously supported by the baneful practice of small-pox inoculation—a practice which cannot be too strongly censured, as forcing upon the helpless and unprepared a disease which frequently proves fatal, and extending a pest, which, by well-timed exertion, might be nipt in the bud.

Four hundred and sixty persons had the natural small-pox during the prevalence of the epidemic, out of which number *one hundred and thirty-one died*, being in the proportion of *two* in *seven* of those afflicted with the disease—and the mortality, dreadful as it was, must have been infinitely greater, had not the Institution bestowed medical assistance to the unfortunate sufferers free of expence; still it cannot be ascertained how many more died from the irreparable injury the constitution had received; or is it possible to calculate the destruction produced on the human frame by decrepitude of body, loss of vision, or other evils too well known to require description here—thus become a misery to themselves and a burthen to their relatives, or through life dependent on parochial relief. *Twenty* children were inoculated for small-pox, of which number *one died*—and from this fatal source the contagion was traced through an extensive neighbourhood, and became equally destructive as if introduced by the disease in the natural form.

Very active means were taken on the appearance of small-pox in any part of the town, to vaccinate all persons liable to the contagion then residing in the neighbourhood. During the eight months that this epidemic small-pox prevailed in the town, *one thousand and twelve persons* were vaccinated by the Institution, *eighty-six* of whom had been exposed to small-pox in the same habitation for many days previous; the small-pox in *thirty-three* of them was by this method altogether prevented; in *forty-six* the small-pox and cow-pock acted on the constitution at the same time, in all these instances the small-pox was particularly mild;—and in *seven* persons only, did the cow-pock fail to take effect, in these the small-pox proceeded as usual; it is more than probable that the fever of the contagion had come on previous to vaccination. From this fund of practical information, it is with much confidence that vaccination is recommended on all occasions, without any consideration as to the nature or time of exposure to small-pox; and had this practice been more generally followed during the prevalence of the epidemic, its progress would have been much impeded, and the consequent mortality diminished.

It is hoped that sufficient has been said to explain the origin, advancement, and termination of this epidemic. It is now necessary to lay before the public the progress of the Institution since the last Report, in September 1808—which left forty-one under vaccination; to these must now be added one thousand one hundred and forty-five individuals who have been vaccinated since that period, of which number nine hundred and thirty-seven are perfect and satisfactory vaccinations;—one hundred and twenty-five doubtful or unsatisfactory;—fifty-one blank, or still remain unprotected from small-pox; and seventy-three are at present under the progress of vaccination. The following, then, is a clear statement of the practice from the opening of the Institution to the present date

2493	Satisfactory, or perfect vaccinations,
291	Doubtful, or unsatisfactory vaccinations,
147	Blank, or those where the inoculation did not take effect,
73	Under the progress of vaccination,
3004	Total of persons inoculated for cow-pock.

The friends of the Charity will undoubtedly expect that the facts which have come under the observation of the Institution should be laid before the public without any reserve. This is the principle that the directors have hitherto followed, and are determined implicitly to pursue; their object being, to convey to mankind what they consider as a valuable resource against a pestilential disease; and having no crude theories to support, they are enabled to examine with candour what may appear adverse to the practice they have so long recommended and pursued.—In consequence, they have to state, that, during the virulence of the epidemic, one of the subjects whose case was marked in the register as perfect or satisfactory, fell a victim to the small-pox. The following is a brief history of the case:

William Greendale, aged three months, then residing in Duke's-Place, Barker-Gate, was inoculated for cow-pock, September 29, 1806, and after being regularly seen through the progress of the disease, was dismissed as satisfactory. On the 31st of January, 1809, being exposed to the contagion of small-pox, in Robinson's buildings, Carter-Gate, where he then resided, he took the disease in the natural form, and died on the eight day from the commencement of the small-pox fever.

This is the plain statement of the only instance, among the whole number of those admitted by the Institution as perfect cases, which has not resisted the influence of small-pox; and no one can doubt, but that all in this town were sufficiently proved during the reign of the epidemic. To expect from vaccination a complete security in every instance is out of reason, whatever the over zealous supporters of the practice may have asserted. It is generally admitted, that some individuals have totally resisted the small-pox by inoculation—others have had the disease twice in the natural way, and many instances of this kind, the veracity of which has not been disputed, are upon record. It is not too much to suspect that a similar peculiarity or idiosyncracy of constitution might have existed in Greendale.—For this idiosyncracy no explanation can be offered; it is one of the secrets of nature which human beings have not yet been able to penetrate, and it most probably will ever remain under the veil of impenetrable obscurity. But allowing, for a moment, that one in one thousand is liable to small-pox after perfect vaccination, this would not surely deter any parent from the use of the only probable preventive in his power to save his offspring from a disease which has here shewn its mortality in the proportion of *two* in *seven* in the natural, and *one* in *twenty* in the inoculated;—but which, in general, averages at one in three hundred, under the most favourable circumstances, when the body has been carefully prepared for the inoculation, and every means taken to mitigate the disease.

Individuals are yet to be found who remain prejudiced against vaccination: their objections are various. Some say it is impious to communicate disease to mankind; the same remark is equally applicable to small-pox inoculation, and, with as much justice, to any irregularity of conduct by which disease is induced—let these scrupulous individuals carefully read the motto to this report, the composition of an eminent divine, they will there find their objection made an argument in favour of inoculation. The cow-pock is also said to be only a temporary preventive; this is disproved by our own register, and the well-authenticated instances of persons receiving the disease in their juvenile days, and remaining through life perfectly protected from small-pox, although repeatedly exposed to the contagion. It has also been stated, that eruptions of a *peculiar* nature, unknown before, frequently follow vaccination. These eruptive diseases were known and described by authors long before the inoculation for *small-pox* was practised in this country, and therefore cannot, with any justice, be attributed to cow-pock; they yield to the common plan of treatment, and are daily seen in children who never had either cow-pock or small-pox—but this is only a repetition of one of the many arguments that were advanced against inoculation more than eighty years ago, and the whole have been servilely copied in opposition to the introduction of vaccination. Inoculation was

first

given to these fibres, provided that the question respecting their active powers in the circulation be previously decided.

London, 30*th April* 1810.

Answer to Iatro-Mathematicus.

On the question, " can the circulation of the blood be carried on without the intervention of a heart?" the writer of the article alluded to by this correspondent, thinks he has made no assertion which he cannot prove logically, at least, though not mathematically. Dr Young asserts, that the muscular power of the arteries has very little effect on the motion of the blood. Mr Brodie has described a case of fœtus without a heart, in which the circulation was carried on by the arteries alone. A similar case is particularly described by Le Cat, Phil. Trans. 1767, and by Dr Clarke, Phil. Trans. 1793. " The defect of heart, (says Dr C.) (not an uncommon kind of monstrosity) proves, that the energy of the arteries was equal to carrying on the circulation, not only in its own body, but only through its own placenta." p. 161. That there was a heart somewhere between the mola and its mother is indeed probable; but these anatomists declare, that no heart could be discovered in the imperfect fœtus; and the progress of the blood through the placenta to the mola will not help Dr Young's theory. Nor will the case of twins illustrate the argument, since each fœtus always has its distinct membranes and appropriate placenta, though they may sometimes be so closely connected, that they appear to be one. Without disputing about the merits of Bichât, the reviewer begs leave to assure Iatro-Mathematicus, that the experiments of Verschuir, Haller, Hunter, and Jones, have convinced him of the great muscular power of arteries, independent of the heart. Whatever may be the principal cause of the phenomena of circulation, it appears evident, that actions and inequalities take place, as in blushing, topical inflammation, and hæmorrhage, without the intervention of the heart, whose motion remains unchanged; and these effects are justly referred to the muscular power of the arteries.

Edinburgh, May 20. 1810.

Communications have been received from Dr Chisholm, Dr Young, Dr Hosack, Mr Boyle, Mr Maule, E. B., Philanthropos, and Birmingham.

ERRATUM.

Mr Stephenson, whose treatment of the sick returned from Corunna is mentioned at p. 172, is surgeon of the *first* Royal Lancashire Militia, and not of the *third*, as there stated.

⁂ Communications may be addressed to the Editors, to the care of Messrs Constable & Co. Edinburgh; Messrs Constable, Hunter, Park. and *Hunter, 10,* Ludgate Street, London; and Messrs Gilbert & Hodges, *Dublin.*

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PART I.

ORIGINAL COMMUNICATIONS.

I.

An Essay towards an Inquiry how far the Effluvia from dead Animal Bodies, passing through the natural process of Putrefaction, are efficient in the production of Malignant Pestilential Fevers; and how far such Effluvia are capable "of exciting a Putrefactive Emotion in all other" living "Animal Substances exposed to their action?" By C. Chisholm, M. D. F. R. S. &c. &c.

I am going to hazard an opinion which may experience a more formidable resistance from prejudice, than that which I have formerly attempted to support, (See Edin. Med. Journal, No. XXI. p. 32-50.) as it seems, indeed, on a general view, less tenable—I mean, that the effluvia from dead animal bodies, passing through the natural process of putrefaction, and unrestrainedly diffused through the atmosphere, are injurious to living animal bodies exposed to their action, no more than inasmuch as their fœtor is offensive to the olfactory nerves *; and that, when confined to a very limited space, and their principles, instead of entering into new combinations, are concentered, and in that state applied to, or received into, the bodies of living animals, these effluvia may act as a poison, producing, in the living animal frame, fever,

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* Nasorum sunt pestes.—Ramazzini.

perhaps, but incommunicable, or incapable of propagation by contagion;—or instant death, by a sudden exhaustion of the living principle. The want of decision of the ablest chemists respecting the precise nature of these effluvia, is very remarkable; and, under every circumstance of the case, should create doubt. To draw conclusions from the analysis they have given us of the gaseous products of putrefying animal substances; and to apply these conclusions to the investigation of the causes of diseases supposed to be their peculiar offspring, would be, I imagine, as unphilosophical as they would be fruitless. The clearest results would be only conjectural. It seems to me, therefore, a more rational course of inquiry to state facts—facts obvious to the senses, evident to every understanding, presenting a clear and sensible line of discrimination,—separating them from all the pretensions of chemical or theoretical speculation *.

Medical system writers, unhappily, in most instances, take facts
on

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* One of the most enlightened of the French chemists, M. Fourcroy, says of these effluvia: " As to the nature of this fugitive odorous substance, it is particularly on this point that our researches have made but small progress, and should be further prosecuted," &c.—Elements, Vol. III. 301. M. Chaptal says, " the last degree of decomposition has its peculiar characters. The smell becomes faint, nauseous, and exceedingly active. This more especially is *contagious*, and transmits the seeds of infection to a great distance." He then enters into a detail of pestilential epidemics, which can have no reference to this product of putrefying animal substances.—Elements, Vol. III. 402. Dr Mitchell of New York, in a letter to Dr Percival of Manchester, observes, that, " the discordant opinions of physiologists and physicians, two of whom can scarcely be found to agree, shew, that the rays of science have hardly begun to illuminate or organize this mass of rudeness, after the experience of two thousand years. I question much whether those venomous or pestilential complaints are better understood, or more successfully treated, than in the days of the Sage of Cos !" To dispel this obscurity, he invented a most ingenious chemical speculation, which at once seemed to lighten the whole horizon of infection and contagion. The detail of facts, the argument in support of its application to pathological investigation, seemed incontestible. Subsequent inquiry, perhaps deeper chemical research, has proved, however, that the gaseous oxyd of azote (nitrous oxide) has been totally inadequate to the production of the effects attributed to it.—See Med. Rep. Vol. I. 266.; Annals of Philosophy, Vol I. 156. M. Guyton de Morveau used the steams of muriatic acid; Dr C. Smyth, those of nitric acid, to purify infected and pestilential air. Dr Mitchell, on the other hand, asserts, that the dispersion of the powder of tobacco would have destroyed as much contagion. Notwithstanding the confidence with which this ingenious gentleman proposes the use of alkaline salts in the correction of putrid vapours, and maugre the dispersion of potash in the city of New York, amounts, by his calculation, to more than fifty-four tons annually, yet unhappily it affords no counteraction to the cause of the malignant pestilential fever, which has so frequently desolated that city.—See Moyens d'entretenir la Salubrité; Smyth's *Account of Experiment*, &c. Med. Rep. Vol. II. 232; and Mitchell's Case of *the Manufactures* of Soap, &c. p. 60.

on trust; they copy from their predecessors; and an opinion is thus promulgated from age to age, which originally had probably no better foundation than superstition or conjecture:—The substance which offends the sense of smell must be injurious to the whole economy of the body, and must necessarily excite in it that tumult which goes under the name of putrid, malignant, or pestilential fever. Thus have the original propagators of this opinion reasoned without examination; thus have subsequent compilers given credence without investigation. Mankind have a propensity to judge of things by exterior appearance:—and an offensive fœtor, an harsh and unseemly aspect, a bitter and nauseating taste, convey to the mind a sensation of malignity, which the fancy readily fabricates into a morbid cause of desolating action. It is thus that putrid animal effluvia, or effluvia proceeding from dead animal bodies passing through the natural process of putrefaction, even in a widely diffused state, are, at once, by a very common operation of the mind, converted into agents of pestilence and death. Medical writers, until of late, have given very much into this belief; and it has therefore become a kind of axiom in medical physics, that such effluvia, whether in a state of diffusion or concentration it matters not, are the most certain and frequent cause of malignant and pestilential fevers. But to be more particular:

As it perhaps never happens that butchers, scaffengers, tallow-chandlers, soap-boilers, and others, who, by their trade, are more immediately engaged in converting putrid animal substances, that is, the flesh, offals, bones of animals decaying by the natural process of putrefaction, to useful purposes, and exposed to the inhalation of the effluvia proceeding from them, are afflicted with the diseases that are supposed to be the offspring of this process; it follows, that if such diseases, malignant and putrid fevers for instance, are ever found to be the produce of this process, we can only account for their being so, by supposing the exhalations proceeding from it to be confined to a very limited space, and there concentered, that is, having their principles chemically united into a compound of a most pernicious nature, and deprived of all chance of escaping such union by the intervention of substances, or fluids, whose affinities to it would generate new combinations with the bases of these principles. The effect, however, is local, and terminates in the individual exposed to the action of the cause *. Such an arrangement of morbid cause may, indeed, account

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* The cause, in fact, of typhus, is, I believe, an undefined change in the atmospheric air, brought about by its confinement in a very limited space, and incapacity

count for malignant fevers proceeding from the miasms of putrid animal substances in stationary camps; for there we sometimes meet with all the conditions I have stated †. A soldier's tent is a very limited space, seldom subjected, in stationary encampments, to the perflation of pure atmospheric air;—and within it such miasms often are generated, often are concentered, and generally during night, and frequently in the day, envelope the body of the soldier. The same may happen in barracks, and in transports. But these fevers are not contagious or pestilential, unless there should be the concurrence of a cause which, under proper management and distribution of the soldiers, cannot exist. A proof of this proposition is, that the officers, more careful to prevent

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capacity, in a great degree, of renewal, and the respiration of an effluvia emanating from the persons inhabiting the wretched close dwellings in which the fever is generally found; it has nothing to do, I apprehend, with the effluvia of putrid animal substances, in whatever state they may exist. We are imperfectly acquainted with, indeed almost ignorant of, the nature and composition of contagion. One thing, however, we do know, that there is a most important distinction between the effluvia of putrid animal matter, and the gaseous matter constituting contagion*; a distinction more readily perceived in the effect, than in the constitution of the agents. I am aware of the inconsistency which may be attributed to me in stating a proposition so opposite to that which may be found in my Essay, Vol. I. 281., and my letter to Dr Haygarth, p. 142. But herein I trust I manifest that disposition which should be paramount in the minds of those whose object, in all discussion, is truth. Subsequent inquiry and reflection have convinced me that I stood not on solid ground when I stated, that among the causes of pestilence is the product of animal substances of every description, deprived of life, and in a state of putrefaction, &c. And I cordially agree with the critic on my letter to Dr Haygarth, when he says, "we are more inclined to think that there is a specific contagion, distinct from mere putrefaction, and which, perhaps, is not cognizable by any of the senses."—Crit. Review, July 1809. The question of M. L. B. Guyton Morveau is unhappily still unanswered; and I fear I may add ever will remain unanswered—"What then is the nature of those invisible corpuscles which, like organic beings, possess the power of reproduction, and of assimilating to their own essence, every thing with which they come into contact, and which seem to assume *life* but for the purpose of propagating *death*."—Treatise, &c. translated by Dr Hall, p. 2.

† This fact has not escaped the observation of Dr Rush of Philadelphia. "The army (says he), when it lay in tents, was always more sickly than when it lay in the open air; it was always more healthy when kept in motion, than when it lay in an encampment."—See Mem. of Literary and Philosophical Society of Manchester, Vol. II. 508. My own experience, in the course of a very extensive military range, gives most ample confirmation to the Doctor's observation.

* Quem qui scire velit, Lybici velit æquoris idem
Discere quam multæ Zephyro turbentur arenæ.—Virg. G. ii.

prevent or avoid this concentration of putrid animal miasms, are healthy; a further proof is, that a change of encampment, terminating the action of the cause, the effect instantly ceases, nor does it again appear, unless there should be a renewal of the circumstances which gave rise to it. Another, and still more cogent proof is, that when a regiment has the good fortune to be commanded by an enlightened, active, and humane officer, whose care and diligence are directed as much to the purification of the air, and consequent preservation of the health of his men, as to their military discipline,—no such fevers, often no disease, are generated:—or if sickness has prevailed, it is displaced by health. One of the most remarkable examples of this I ever met with was exhibited by two commanding-officers of the 45th regiment, when stationed at Grenada in the year 1788. One, by the most criminal neglect, permitted the accumulation of every description of filth, but more especially of putrid fragments of animal substances; used no means to prevent the universal and excessive use of the worst kinds of spiritous liquors; instituted no regularity in exercise and parade duties. He saw the necessary consequence, (a fever of a malignant and fatal nature, but not contagious, arise in the barracks of the soldiers), with a stupor, a perversity, a malignity which cannot be reconciled with duty or humanity. During the greatest prevalence of this fever, a superior officer, of a description, in all respects, opposite, arrived from Europe, and superseded the former. The utmost attention was paid to cleanliness, ventilation, exercise, and more especially to regulation of diet, and the removal or destruction of fragments of putrid animal matter, the refuse of their rations. A new and most gratifying scene took place:—the fever ceased, and health and comfort assumed its place. The officer whose humane and active exertions effected this sudden and salutary change, was Lieut.-Colonel Oliver Nicolls, now a lieutenant-general.

It is, I imagine, doubtless owing principally to this concentration of the principles of the effluvia proceeding from putrefying animal substances, into a virulent poison, that armies were so often destroyed by malignant fevers, generated on, and limited to, the spot. Unacquainted with economy, prodigal when in plenty, prodigious accumulations of putrid animal matter surrounded the irregular soldiers of the darker ages, in their stationary encampments: famine often resulted, and lent its desolating aid. The histories of the campaigns during the darker and more barbarous ages, often record such fatal catastrophes, and even the 15th, 16th, and 17th centuries, were not sufficiently enlightened to prevent them. Ramazzini, who took his information from the most celebrated and best informed physicians of his time, does not hesitate to acknowledge and lament this *.

But

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* Profecto nostrâ hac ætate, nullum calamitiosius vitæ genus excogitare licet quam illud, quod milites, gregarii saltem, ducunt tum in acie, ac arcium oppugnationibus, tum in hybernis quoque, sive ob neglectam militarem disciplinam, cum non eâ diligentiâ, ut olim, bonæ militum valetudini consulatur, ——nihil tamen æque morborum phalanges in castra invehere posse crediderim, quam castrorum sordes, et neglectam munditiem.—Ab iis medicis qui magnos exercitus comitati sunt, accepi, tam gravem mephitim in castris interdum per æstatem persentiri, ut nullum antrum charondum gravius fœteat, &c. (De Morbis Castrensibus). The frequency of what is called, in the records of the ancient and middle ages, plague and pestilence, arose evidently from three causes:—The imperfect state of agriculture giving rise to famine; the prodigious extent of marshes, which were not drained untill the 17th century in general; and the almost constant warfare the unsettled and barbarous state of society gave occasion to. The last, indeed, may be considered as the agent which called forth the two first, and presented subjects to be acted on by them. Another circumstance may be considered as contributing to this general effect; the great heats experienced during summer, and the excessive cold in winter, before clearing the surface of forests and draining the marshes, had produced a more equable temperature.

The words of Holinshed are curious:—"For while their minds changeth from obedience to unrulinesse, and turneth itself from honeste to wildnesse, from small fare to spoile of vittels, and from beds in the night to cabins, and from sweet houses to *stinking camps*, it must needs be by changing of affections which alter the bodie, and by using of rest that filleth the bodie; and by glutting of meals which weakeneth the bodie, and with cold in the night which accraseth the bodie, and with corrupt air which infecteth the bodie, that there follow some grievous tempest, not onlie of contagious sicknesse, but of present death in the bodie."—Chronicle, p. 1049. See Mr Grose's Military Antiquities, Vol. I. 266, 268, where quotations from Sir James Turner's Pallas Armata, and Sir John Smythe's Discourses, throw much light on the economy and management of the English armies of the 15th and 16th centuries, more especially on the provisioning (proviant or provand) of the soldiers. It was often the false economy of our princes of those periods to give the soldiers provisions instead of money as pay, the consequence of which was frequently fatal; for "they must be contented to march scmetimes one whole week and scarce get two pounds of bread all the while, and their officers as little as they. I have known," continues Sir James Turner, "captains give a very great demonstration of their patience and their affection to their master's service, by satisfying their appetites with water and very coarse bread, one whole summer and part of the next winter." The payment in provand furnished ample room for the exercise of a peculatory and avaricious disposition, the bane, alas! of our armies in all periods of our history. Sir J. Smythe says: "But such covetous men of warre, under the pretence, (as though their souldiours had beene either naturele fooles or children) did, contrarie to all militarie order, put the greatest part of their souldiours pay into their own purses, allowing them great scarcity of provand. By which means it came to passe, that diverse thousands of their souldiours, partly by hunger and partly by evil lodging, and altogether by the small care and misuse of our such men of warre, did perish." Of the expedition under the Earl of Leicester, in Queen Elizabeth's reign, he says: "Scarce the fortieth man escaped with

life

But we are frequently told by medical writers, more especially system writers, that the fevers which often desolate armies, have their cause in the effluvia proceeding from the putrefaction of the unburied bodies of men and horses slain in battle. This I am very much inclined to believe is a mere theoretical idea; and I believe so principally for two reasons: 1. We have innumerable instances of prodigious slaughter in battle, without this effect being the consequence to the living. 2. In all instances adduced in support of this opinion, we find most powerful, acknowledged, and indisputably ascertained, morbid causes existing, fully sufficient to this effect, without resorting to, at most, a doubtful cause. If any direct unequivocal proofs had been given of the efficacy of these effluvia in producing the typhus gravior, or the various species of tritæophya, I should be ready to submit to an opinion founded on such premises: but I believe there are no such direct unequivocal proofs on record. On the other hand, there is always an heterogeneous assemblage of causes presented to our notice:—the simplicity, the homogeneity, if I may thus apply the word, of nature, is not attended to; the precise cause of a precise effect is not given: but several causes are employed to produce

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life from this cause." What a lesson to the government of a country!—It is a most singular fact, that the military codes for the government of the English armies, called "the constitutions, the charters, statutes, ordonnances, and customs for the warre" of the 12th and 13th centuries, exhibit an infinitely greater degree of attention to the religious and moral conduct and health of the soldier than those of any subsequent period. There is a sense of duty to God and to society, we should not expect in ages perhaps falsely called barbarous. Mr Grose has given some excellent specimens of these regulations, which do honour to the prince or the minister who enacted them, Vol. II. 57-107. These very regulations, however, bear on the face of them abundant proof of the extreme irregularity of our armies of those times, whose constitution and duration were loose and short, and whose services were feudal. They likewise give ample confirmation to the representation of Holinshed, and the excessive anxiety concerning the supply and application of provisions, and more especially the waste which constantly accompanies an uncertain and irregular issue of them, and manifest the filthy state of their camps and quarters. Even in the reign of Henry VIII. when the encampments were extremely magnificent, (Ibid, p. 205) there is a clause in the military code of that king, which proves that "Carryn (carrion), filthe, and other unwholesome or infective stinkinge thinges," were continually present in the camps and quarters, (Ibid. 97). The astonishing wretched state of the army medical department of the earlier periods of our history, must have also largely contributed to the distresses and mortality of their armies, notwithstanding the custom which generally prevailed of discharging a soldier as soon as he became sick. In the reign of Henry V. military surgeons were classed with shoemakers, taylors, barbers, and washerwomen. The pay of a military surgeon in Edward II.'s reign, was 6d per day; in Henry V.'s 1s.; in Edward IV.'s physician 2s. surgeon. 1s. and assistant 6d.; in James I.'s physicians 6s. 8d., staff-surgeons the same, regimental surgeons, 4s. 8d. (Ibid. Vol. I. 272-277).

duce one effect, or several effects are made to proceed from one cause. Seeing no obvious causes in nature for those diseases which spread their baneful influence epidemically, more especially the pestilential, besides the undefined, and, perhaps, undefinable constitution of the atmosphere, constantly referred to, Hippocrates insinuates, that they must be attributed to the wrath of heaven—simul vero et si quid divini in morbis inest *;—an easy mode of removing a difficulty; and indeed such is their obscurity, that we must acknowledge it to be the most obvious—for what elucidation has our boasted knowledge of nature and her operations furnished us, in the investigation of the origin and precise nature of contagion? Galen, however, less scrupulous, or more speculative, imagined, and I have no doubt, believed, he saw these causes in the changes of the seasons of the year (μεταϐολης των ὡρεων), in the state or constitution of the atmosphere (εκ της περι τον αερα καταστασεως), in situations subject to great heat and moisture; and in the inspiration of the putrid miasms, arising either from a multitude of dead bodies left to pass through the natural process of putrefaction, as after battles, or from stagnant lakes and marshes †. Physicians, since the time of Galen, have founded their opinions of the causes of pestilential fevers, on premises as uncertain as those just stated—on premises which their successors

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* ἅμα δε και ειτι θειον ενεστιν εν τῃσι νυσοισι. Praenot. 1. Edit. Vanderlinden.

† συντελες δετι προς την των ἐιρημενων σηπεδονων νοσηματων γενεσιν ἡ χωρα, μαλιςτα μεν ει κατ᾽ αμφω δυςκρατος ἐιη θερμοτερα και ὑγροτερα καταστασα—at regio ad dictorum putridorum morborum generationem confert, maxime quidem, si in utroque intemperata fuerit calidior et humidior constituta.—1. Epidem. Comment. 1.

ὡς τα πολλα δε εκ της αναπνοης αρχεται τε περι ξ ἀερος ὑπο σηπεδονωδοις αναθυμιασεως μιανθεντος. ἡ δε ἀρχη της σηπεδονος ἠτοι πληθος τι νεκρων ἐςτι μη καυθεντων, ὡς εν πολεμοις ἐιωθε συμπιπτειν. ἡ εκ τελματων τινων, ἡ λιμνων αναθυμιασεις ὡρα θερεος· ἐςτι δ᾽ ὁτε κατηρχει μετ᾽ ἀμετρος θερμασια τε περιεχοντος. Sed magna ex parte (febrium pestilentium) incipit ex aëris circumfluentis respiratione putrida exhalatione infecti. Principium autem putredinis, aut multitudo cadaverum est minimè crematorum, quemadmodum in bello contingere solet, aut exhalatio quarundam paludum aut stagnorum æstivo tempore, atque interdum immoderatus calor circumstantis aëris est principium. De Febribus, Lib. i. c. 6. Ed. Lutet. Parisior. 1679. In support of this proposition, Galen makes a most singular misapplication, I apprehend, of a fact recorded by Thucydides in his account of the plague of Athens. The fact is that which relates to the miserable temporary huts, (καλυϐαις πνιγηραις) or summer-cabins, erected by the peasants for their accommodation, after they had been driven into the city by the Peloponnesians, which became, like the grog-shops in Grenada, a principal means of diffusing the contagion, and not, as Galen represents them, the principal cause of the plague (ἀιτια πυρετε γενησομενα:)—for the pestilence had already been introduced, had already prevailed over the city, and these peasants becoming infected, by intercourse with the diseased, rendered the disease still *more virulent* and general.

sors have proved to be insufficient or incompetent; whilst these, in their turn, have yielded to others equally unsatisfactory. The records, and more especially the systems of medicine, furnish lamentable proofs of this; and the experience of liberal and enlightened physicians warrants the clear, pointed, and comprehensive remarks of the Honourable Mr Boyle, whilst it perceives little room for the admission of that philosopher's own conjecture on the subject. He wishes to take a middle course between supernatural and natural causes, but leaves us as much in the dark as ever, by assigning pestilence to "subterraneal expirations." "Those," says he, "that fetch it from the malevolent aspects and influence of the celestial lights, besides that they suppose some things very difficult to be proved, have recourse to agents too remote, too general, and too indeterminate, to be acquiesced in as the causes of such particular symptoms and phenomena, as oftentimes accompany pestilences. And as for those other sects of physicians, that confidently derive the plague, some from internal putrefaction, and others from excessive heats, noisome stinks, corrupt aliments, and such other celebrated causes; though each party alleges plausible reasons for its own opinion, yet their objections against their adversaries are much stronger than their arguments are for themselves. And the learned Diemerbroeck, though his own hypothesis seems to be more theological than philosophical, has much enervated the arguments brought for the several opinions lately named, and by him dissented from." Mr Boyle's sources of information were from "consulting uncommon authors, and asking questions of great travellers and navigators." "By this means I came to learn, that divers great countries are usually free from the plague, that, according to the vulgar hypothesis, ought to be as much subject to it, if not more, than England, France, Italy, and those other parts of Europe and Asia, where that fatal disease rages, from time to time, in the parched regions of Afric, to which the excessive heats would make one expect that the plagues should make far more frequent visits than to our temperate European countries." After enumerating many countries,—Guinea, Numidia, New England, China, E. Indies, &c. which are almost totally exempt from pestilence, he proceeds: "Now, when I consider how vast tracks of land are comprised in those countries, some of which the plague does not at all, and others but exceedingly unfrequently, invade; this immunity seems to me very unfavourable to most, if not all, the opinions received among physicians, as also that of Diemerbroeck himself, who derives the plague from a supernatural cause,—the wrath of God against the sins of men. For, in regions of such extent, and divers of them very populous, which are seated under very differing climates, and which are some of them inhabited by nations that make war with numerous armies, *fight bloody battles*, leave *heaps of unburied bodies exposed to the putrefying heat of the sun*, are sometimes forced, as well as others, to live upon very unwonted and unwholesome foods;—in these regions, I say, it is not imaginable but that great intemperatures of the air, especially in point of heat, stench of dead bodies killed in battle, unwholesomeness of aliments, in short all the causes, to one or other of which the several parties of physicians are wont to refer the plague, should be wanting any more than in our Europe; and yet the plague, which is presumed to be the effects of one or other of these causes, is not here observed to be produced."—See Hon. R. Boyle's Works, 4to. Lond. 1772, Vol. V. p. 56. This long extract precludes the necessity of further quotation in support of my proposition*.

These

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* The celebrated Stahl accounts for this diversity and instability of opinion: Dolendum est quod nullus auctor febrium species distinxerit, nisi ex præconcepta putredinis et malignitatis opinione, ita ut individuas observatione compertas ad suam speciem, imo, ad genus referre difficillimum est: hoc exinde factum est, quod nullus auctor historiam morbi seponat ab ejus theoria philosophicâ, et semper causam supponat cognitam, atque exinde signa characteristica derivare contendat; quo errore nihil pejus in re medicâ."—Sauvages, Nosol. Meth. Tom i. 301. This is certainly a principal cause of the retardation of pathological knowledge; and yet it is sometimes wonderful to what lengths it may be carried. Nay such has been the prejudices relative to the supposed exclusive agency of animal putrefaction in the production of putrid or pestilential fevers, that some physicians have made dead stranded whales the cause of widely extended pestilence and death. A fact of this kind is stated by Forestus, (Opera, Lib. vi. ob. i. Sch. fol. ed. Tom I. 202). He lays down, as a general principle, that fish dying and becoming putrid in water, "*præcipue in lacubus et stagnis minusque mobilibus*," first infect the air, and afterwards bring on plague. And this, he says, may happen even in the ocean, if it should throw up on its shores, fish, more especially large fish, "vivos vel mortuos;" a singular enough event. He then proceeds to detail the deadly effect of a fish of the whale kind, ingentis magnitudinis atque portentuosæ molis, stranded on the coast near Egmont, in N. Holland. We are, however, to take along with us, that Forestus was one of the observers of the "disciplina astrorum," and a believer in the occult causation of diseases; and that he also, like some of the American physicians of the present day, confounds those fevers which are the genuine offspring of marshes with those which proceed more immediately from contagion, and designates them by the general name "pestis," and "febris pestilentialis." This is more particularly remarkable in his account of the endemic fever the city of Delft was annually subject to during the hotter months. This, as usual, he calls "Pestis," but the cause is evidently local, and productive of bilious remittent fever:—"in loco profundiore sita est (Delft), et aquas non currentes aut fluentes habet: ita ut halitum quemdam putridam, maleque olentem emittant." What more is necessary for the production of bilious remittents? and yet this author is often

quoted

“There are grounds of belief, that even the concentration of the miasms of putrid animal substances, does not give rise to fever, and seldom, if ever, to disease of any description. The following facts certainly militate against a contrary conclusion.

“1. In the neighbourhood of Bitton, in Gloucestershire, about a mile from Willsbridge, which was my residence for nearly four years, there is what is called, "a bone manufactory," in which animal bones, after the extraction of their medullary oil by boiling, are distilled, and yield the usual products, muriate of ammonia, and sulphate of soda. From this manufactory, a fœtor of the most offensive nauseating nature proceeds, and fills the atmosphere for nearly a mile around, diminishing in strength as it recedes from its source, and in proportion to its dilution or decomposition. The country is thickly inhabited, and near the manufacture itself is the village of Oldland, the population of which is very considerable; yet, in not one instance has this manufacture proved, in the smallest degree, injurious to health. I have frequently visited it with the most complete impunity. For several years the superintendant, Mr Henderson, his wife, and family, lived in a house, having on one side, connected with it, that in which the retorts are placed, and on the other, that in which the bones are boiled:—yet they had every appearance of health, and they assured me they enjoyed it. A more convenient house, on a neighbouring hill, becoming vacant, Mr Henderson rented it for the accommodation of his family. Soon after they began to reside in it, they lost their health, and were, when I last saw them, much inclined to return to their old and stinking habitation. This exemption from disease in the manufactory of sal ammoniac, &c. has been noticed by Morveau and Chaptal. (Edin. Med. Journ. Vol. II. p. 295).

“2. Between Bristol and Hanham, on the banks of the Avon, is Conham, remarkable for nothing but its having been chosen for the site of an extensive manufactory for the conversion of the flesh of dead animals into a substance resembling spermaceti—a project which has been relinquished several years ago. This being also not very distant from Willsbridge, I made a good deal of inquiry into the result, as far as it affected the health of those immediately engaged in the process, and of the inhabitants of its

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quoted as an evidence of the cause of pestilential fever, (typhus et typhus gravior); although there is not a better established fact in pathology, than that pestilence cannot proceed from such a cause. With respect to the putrid whale of Forestus, it is fair to oppose one fact by another; and the authority of Dr Gordon is as good as that of Forestus in the present instance. See my Letter to Dr Haygarth, p. 251-253.

its thickly peopled neighbourhood. The foreman or superintendant, Richard Bolston, residing now at Jeffries-hill near Hanham, has been my principal informant: and his account was confirmed by that of Mr Thomas Pearsall of Willsbridge, and other respectable persons. Bolston was two years employed constantly in this business; and during that time resided in the midst of dead animal bodies, horses, asses and dogs, many of which were left to pass through the natural process of putrefaction. He had three labourers under him, and he declares that neither himself nor any of these men suffered from a moment's sickness, or indeed experienced the smallest inconvenience. Their business was to cut up the carcasses, to strip the muscular flesh from the bones, and to dispose of it first in boxes, perforated for the admission of water, which were afterwards laid in pits filled with water. The entrails and every part not useful to them, were left to putrefy on the surface. The pits prepared for the animal matter thus disposed were seven feet deep, and four broad and long, and each calculated to contain the flesh of fifty horses, besides asses and dogs. An idea may therefore be formed of the immense volume of putrid animal effluvia, enveloping continually the persons of Bolston and the labourers, by being informed that there were six of these pits, and consequently 300 carcasses of horses, and as many of asses and dogs, exhaling in greater or less abundance their offensive miasms. Notwithstanding this, Bolston declares, that although the stench was offensive in the highest degree, yet he and those with him sustained no injury—and to this the inhabitants of the country around bear ample and angry testimony both in relation to Bolston and themselves.

((3. Another remarkable fact, well known where the manufactory of refined sugar is extensively carried on—butchers preserve the blood of the slaughtered animals in open tubs, kept in close small shut up houses, sometimes for several weeks, until the quantity required is completed, or until there is a demand from the sugar-bakers for it. It is then, in a putrid state, conveyed through the public streets in carts or drays to the sugar-houses, emitting the most offensive effluvia, and extremely annoying to all those who pass it. It is seldom immediately used by the sugar-bakers, but kept by them in casks in a putrid state, filling the air of the manufactory, and frequently of the vicinity, with its putrid miasms, or what Galen and his followers would call ἄιτια λοιμȣ γενησομενα, the seeds of pestilence. But what is the result to the workmen, or to the inhabitants of the surrounding houses?—nothing inimical to health. This fact exists constantly in the city of Bristol, where in general the streets are extremely narrow, and the houses excessively crowded and ill ventilated—and yet the harmless nature of these exhalations may be daily verified—I speak from my own observation, and the experience of the most respectable sugar-bakers. In summer it is more remarkable than in winter *.

4. Mr Newman, surgeon in Stokes Croft, Bristol, a gentleman of great worth and professional skill, procured for me from his friend Mr Bevington and his brother Mr Newman of Bermondsey in Southwark, the following interesting particulars respecting the leather-dressing business.

"I have just received your letter of the 20th inst. (January 1810), making inquiry respecting putrid, contagious, and low fevers, as affecting the workmen employed by leather-dressers, to which I can give you a pretty clear reply. Our men are generally healthy, and the most so of the labouring poor—many have been in our service and knowledge fifteen and twenty years, and I do not recollect one case of the kind occurring (in our establishment) in London. The first process in dressing is to put the skins

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* We cannot, in most of the foregoing cases, have recourse to such ingenious calculations as that given by Dr Mitchill of New York, in his defence of the tallow-chandlers and soap-boilers of that city. He estimates the yearly consumption of soap in New York at 364,000 lb.—one third of this quantity is alkaline salt; consequently the potash expended or thrown away is 121,333lb. or more than 54 tons. See Case of the Manufact. of Soap, &c. p. 60. We must seek for other causes of the exemption which the inhabitants experience from deleterious effect, or at once admit the harmless nature of the prodigious volumes of putrid animal exhalations, which exist in them. In one case, perhaps the most remarkable, the attempt at manufacturing adipocere, it is evident that no alkaline salt of any description could lend its corrective power; therefore, if we suppose any pestilential fumes to arise from these vapours, there was nothing on the spot to prevent the extrication of it. These facts, compared with each other, are very important ones, in whatever way we view them; for if this immense accumulation of alkaline salt cannot be supposed to have any agency in the correction of putrid animal vapours, then all the manufactories from which they exhale, must be admitted as harmless:—if its agency is admitted, then we perceive that the poison possesses within itself its own antidote. Perhaps our safest reasoning on the present occasion might be this. There is a compensation in nature for all necessary evils—and the effluvia, perhaps "cunctarum exordia rerum," of the philosophic poet, proceeding from the process of animal putrefaction, considered so destructive of life, by the unthinking or the speculative, when diffused in the atmosphere, are immediately absorbed by the inhalents of vegetables, or have their nature changed by the attraction of chemical affinity, and the new combinations which thence result.

Haud igitur penitus pereunt quæcunque videntur;
Quando aliud ex alio reficit natura, nec ullam
Rem gigni patitur, nisi morte ajuta aliena. Luc. i. 263.

So nought can perish, that the sight surveys,
With utter death; but nature still renews,
Each from the other, nor can form afresh
One substance, till another be destroyed. Good.

skins into a pit of water to soften them, which is often used two or three times, that is, for two or three parcels, before it is changed, until the stench is intolerable. After this process the skins are struck out over a beam, and hung up, side by side, as close as possible, in a small room excluded from external air, which we term a stove: in this state they remain until they heat and slime, so that we can pull off the wool. The process of putrefaction is here so rapid as to disengage large quantities of volatile ammoniac, affecting the eyes of strangers with tears, and their noses with the most offensive smell. Our men always pull the skins in the stove in cold weather from preference, and are occupied in it a whole day at a time without injury." Another gentleman, a brother of Mr Newman's, concerned in the leather-dressing trade, but not in the same house, in Bermondsey, informs him "that so far from our workmen being unhealthy or particularly subject to fevers, the reverse is the fact—the men employed look generally robust and healthy. In a concern in this line of business of fifty years standing, in which fifty men are constantly employed, the men have been uniformly healthy; and in this a circumstance is deserving of notice, viz. the men who work upon the raw skins, from which there is a constant and profuse exhalation of putrid steams, and those employed at the lime and tan-pits, are equally healthy." Mr Newman the writer of the above, says there are about sixty leather-dressers and tanners yards in Bermondsey, and in them about 700 men are constantly employed.

It may perhaps be objected to this account that the business of leather-dressers in other countries had been represented as extremely unhealthy. Hippocrates is supposed to have meant something of this kind as the cause, when he mentions the case of a person, Philiscus, *residing near the wall*, who died on the 6th day of a malignant fever (Epidemic. Lib. i. s. 3.); for anciently, and now indeed, offensive trades of this kind were carried on in the suburbs, παρα το τειχος of cities. This was the case at Rome, beyond the Tiber, and some of the Latin poets have exercised their wit in allusions to it. It is highly probable, however, that the real cause naturally existed in the spot itself set apart for the "sordidiores artes," and that what was attributed to them proceeded from the marshy nature of the soil. Certain it is, without recurring to this explanation, we cannot reconcile Mr Bevington's and Mr Newman's, two respectable living witnesses, with the testimony of Ramazzini and Mercurialis, Martial and Juvenal, as quoted by him; and there is sufficient evidence that the Transtiberina Regio of Rome, and the Paduano (once, 17th century, *male sanus*, bestiis quam hominibus aptior) were proverbially unhealthy from their marshes, and that Bermondsey is not.—See Ramazzini, De Morb. Artific. cap. 15.—and Annotat. in Lib. Lud. Cornelii, Veneti de Vit. Sobr. Commodis—and de Virg. Vestal. Valetud. tuend. Dissertat [*].

5. I borrow the following singular fact from the ingenuous and experienced Ramazzini. "In hac civitate (Modena), quæ pro suo ambitu satis populosa est, ideoque domos confertas habet ac præaltas, mos est ut tertio quoque anno in singulis domibus cloacæ expurgentur, quæ per vicos discurrunt. Cùm ergo domi meæ id opus fieret, contemplatus unum ex operariis istis in antro illo Charonæo magnâ anxietate ac sollicitudine opus suum peragentem, miseratus tam improbi laboris, ipsum interrogavi, cur tam sollicitè laboraret, et non pacatius id ageret, ne ex nimio labore in multam lassitudinem incideret, tunc miser ex antro illo oculos attollens, meque intuitus: nemo, inquit, nisi expertus, imaginari potest, quanti constet, plus quàm quatuor horis in hoc loco morari, idem enim est cæcus fieri.—Rursus ab eodem quæsivi, num in faucibus ardorem ullum persentiant, difficultatem aliquam respirandi patiantur, capitis dolore tententur, num odor ille nares percellat; nauseam pariat; nihil horum respondit ille, neque pars ulla in hoc opere mulctatur, præter oculos."—This account was afterwards confirmed by his observing a number of these people reduced to blindness and beggary. "Oculis tamen solummodo, bellum tam atrox indicunt fœtidæ exhalationes istæ, ac illos acutissimis spiculis sic feriunt, ut illis vitam, id est lumen, eripiant." Thus, as certain acrid substances seem exclusively to affect different and distinct parts of the body, as cantharides the bladder, the torpedo the nerves—"sic halitus illi ex humanis fæcibus per varios corruptiones gradus trium annorum spatio, talem adsciscant naturam, ut oculos tantùm lacessant, cæteris vero partibus ignoscant."—(De Morb. Artific. cap. 13). This fact is no less important than curious, as it tends to shew the inconsiderate conclusions of some eminent writers respecting the influence of the exhalations of privies on the health of men. Sir John Pringle often attributes the epidemics of camps to this as a cause; but it is fair to believe that he did so, without allowing himself sufficiently to investigate the subject. The tendency of this fact, too, goes to the overthrow of some of the bold, and I am inclined to think, hasty assertions of Dr Miller, relative to the locality of the cause of the pestilential fever of New York in 1805; for what is "the blast of putrid exhalations from the sewer of Burling-slip"
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[*] My Essay on the Malignant Pestilential Fever may also be consulted with illustrative effect, under the article Martinico, Vol. II. p. 120—123; under *St Lucia, Ibid.* p. 133; under Demeraray, Ibid. p. 200.

to the halitus ex humanis fæcibus per varios corruptionis gradus trium annorum spatio" of Modena? (See Ed. Med. Journal, Vol. III. 252.). Now, whether the effect of these exhalations is asphyxia at Paris, according to Sauvages (Nos. Meth. i. 820), or amaurosis at Modena, according to Ramazzini, in either case there is ample proof that they cannot be productive of putrid or pestilential fevers. over leaf —

6. The spontaneous extrication of putrid vapours from the sepulchral vaults of the cathedral church of Dijon, celebrated for having given occasion to the first experimental essays of oxygenants in the decomposition of putrid and contagious effluvia, may seem an exception. But this, in truth, can be considered only as a mephitis acting on those within its influence, in a greater or less degree, according to its concentration, and producing the usual effect of such effluvia, asphyxia.—What M. de Morveau says of the appearance of a contagious fever in the neighbourhood, as connected with this mephitic vapour, is extremely vague and indeterminate—By sprinkling with a considerable quantity of the vinegar of the four thieves, " the odour of the putrid effluvia was merely masked for a moment, and soon reappeared with its former activity, *spreading to the neighbourhood, where the symptoms of a contagious fever began to appear.*" When the fumigation had been completed, he does not say that this contagious fever had been stopped or prevented—in fact he says nothing about it—he adverts only to the purification of a mass of air contaminated by these mephitic vapours. (See his Treatise on the means of purifying Infected Air, translated by Dr Hall, p. 25-29.—See also Sauvages, Nos. Meth. tom. i. 819.) Ramazzini is by no means satisfactory on the subject, indulging in declamation, and exhibiting no proofs that " post magna prælia commissa, per insepulta cadavera, seu *per antiqua sepulchra incautè aperta*, diras pestilentias enatas, quæ ingentem populorum stragem ediderint." De Vespillonum Morbis.

7. I shall offer another argument, arising indeed out of established facts, but which may perhaps be considered more curious than essential, more philological than philosophical, more amusing than instructive. It nevertheless possesses great weight as a part of the general argument.

One reason why the Romans made use of the word *lues* to express their conception of a pestilential disease, may have been the opinion they entertained of the infectious nature of the effluvia proceeding from those places where their sacrifices and expiatory offerings of slaughtered animals were made; the word lues being evidently a derivative from *luo*, to expiate; and the catenation

tion of ideas was simple and easily formed *. It is probable, also, that the Greek word for pestilence, λοιμος, was formed under the same catenation of ideas, and had its origin from λιω, which bears the same signification as the Latin *luo*. I am aware that the learned Parkhurst derived λοιμος from λελειμμαι (perf. pass.) of λειπω, to fail—(Lexicon, Vol. v. 35.)—but there is not a catenation of idea between the supposed effect and cause—the same affinity does not exist but in a very remote degree. In contradistinction to this supposed source of pestilence, a morbid constitution of the atmosphere, so constantly referred to in Hippocrates and Galen, was called φθορα—an expression as indefinite as the state of the atmosphere it was employed to signify. Other nations, among whom expiatory sacrifices of animals were as frequent and as extensive as among the Greeks and Romans, attached no such idea to the effluvia arising from the putrid remains of the victims. This was especially the case among the ancient Jews. But among them pestilence was denominated by a word which conveyed an idea of the exterminating effect, rather than of the cause or source of the disease, and was evidently connected with the theocracy, and a catenation of idea with the wrath of God. The word *Deber*, in various parts of the Old Testament is applied to pestilence; and indeed I believe is the only word used to signify that malady. In the Polyglotte, the Latin word answering to it in every instance is pestis or pestilentia; the Greek is either λοιμος or θανατος †. But that the catenation of ideas which gave

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* See Gesneri, Thesaur. Ling. Latin.— Lues ab ea vi verbi luo—Lues est diluens usque ad nihil.

† Exod. c. ix. v. 3—Levitic. xxvi. 25—2 Sam. xxiv. 14.—1 Chron. xxi. 14.—2 Chron. vii. 13, &c. Parkhurst translates *Deber*, " the plague or pestilence, which eminently carries off men, or drives them to their graves." The radix is דבר, to drive or carry off.—See Parkhurst's Lexicon, Vol. iv. 55.—Calmet, Vol. ii. 370, fol.—See also the Polyglotte Bible for the above, and many other instances. I may here take occasion to remark, that the appropriate meaning of the word " pestilent," as applied to St Paul by the lawyer or pleader, Tertullus, before the Procurator of Judæa, Felix, appears hence evident. In the original (λοιμον) it bears precisely the signification of the Hebrew word; and τὸν ἄνδρα τουτον λοιμὸν, is literally a man who carries off or drives away the Jews from the religion founded on the law of Moses, or a converter. Dr Hammond paraphrases λοιμον, dangerous; a very loose version at best.—Acts, xxiv. 5. I find Dr Parr of Exeter, in his excellent Medical Dictionary, and Dr Turton in his Medical Glossary, derive pestis from the Hebrew word פשט, Pasat; a very remote affinity in the meaning, although an analogy in the formation of the words. Parkhurst, Vol. iv. 287, translates פשט, Pasat, to spoil, divest, or ship off, as in Job xix. 9, and xxii. 6, and many other places— also to strip off the skin, to flay, as in Leviticus, i. 6, &c.—also to spoil, pillage, or plunder, as in 1 Sam. xxx. 14. vastavimus—2 Sam. xxxii. 10. spoliandum, &c.—In the Polyglotte, the word is pointed

rise to the Greek and Latin appellations of pestilence was the act of a lively imagination, and not the offspring of established premises, is evident, not only from the difference of result among the Jews, but among infinitely less refined, and, if possible, infinitely more cruel nations. Among the Jews, I believe, there is no instance of pestilence proceeding from any other cause but the wrath of God, as a punishment for disobedience; nevertheless, there has never been a people, since the creation of the world, who have been engaged in more bloody, and literally exterminating wars; and who have, from their uniform practice of leaving the dead of their enemies to be devoured by wild beasts, been more exposed to the supposed pestilential influence of the exhalations from animal bodies passing through the natural process of putrefaction. From the cause to which pestilence was often attributed by the Greeks and Romans, the emanations from putrid animal substances, it could not proceed among the Jews, at least as far as these emanations were connected with their sacrifices;—for it was a law in the Mosaic code, that no part of the victims should remain unconsumed by the evening of the day on which they were offered. This is evinced by the detail of the sacrificatory ceremonial in Leviticus. The victim was burnt (chapters i. iii. and iv.), or ate by the priests (c. vi. 10. c. vii. c. x. xii. &c.) Hence the appellation *Deber* had peculiar propriety and force of signification.

Clavigero, on the authority of Torquemado, says, that at the dedication of the great temple of Mexico, anno 1486, 72,344 human beings, prisoners taken in war for the purpose, were sacrificed to the Mexican gods; and that a petty king or lord, about the same time, in imitation of his master the emperor, sacrificed many thousands on a similar occasion. On the erection of the great altar at Mexico, more than 12,000 were offered up:—and the annual average of human creatures thus disposed of

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with the vowel points; and in no instance, I believe, is it used to signify pestilence. I apprehend that, if the word has ever been used in that sense, it must be figuratively—indeed, in the authorities I have consulted, there is not the most distant allusion to this word being applied to pestilence. See Avenarius's Lexicon, Heb. ed. Wittenburgæ, 1589, p. 646. It is probable, therefore, that Pasat, being considered the radix of Pestis, is only an ingenious etymon, without authority to support it. I say this, however, with all possible deference; and after consulting various respectable authorities, both written and living, which incline me to believe that the true, and perhaps only Hebrew word for Pestis, is *Deber*. Calmet, indeed, expressly says, "Pestilence answers to the Hebrew word *Deber*, which *properly* signifies the plague, and which is extended to all other epidemical and pestilential diseases, as murrain, Exod. xi. 3. &c." Vol ii. 370. folio.

of, amounted to 20,000, besides a prodigious number of quadrupeds and birds. Notwithstanding this dreadful waste of human blood—and notwithstanding the horrible stench always present in this quarter of Mexico, the diseases, among an immense population, some say six millions in the city alone, were trifling, and proceeded almost altogether from marsh miasmata. The bodies of the victims were precipitated to the bottom of the steps of the altar, there to putrefy; or were sometimes ate by the Mexicans—and a pond of water, situated close to the great temple, was continually tinged with the blood of the sacrifices. (See History of Mexico, vol. 1st, p. 201, 232, 281, 426. See also Herrara, decade iii., c. 16.; Prevost's Voyages, &c.) The prodigious sacrifice of peace-offerings, made by Solomon at the dedication of the temple of Jerusalem, may be compared, 1 Kings, viii. 63.

The annals of Dahomy furnish numerous illustrations of the foregoing remark,—a nation whose kings delighted in blood, who wanted heads, not slaves to garnish their palaces continually stained with human gore, and whose "annual customs" presented, to the terrified European many thousand human beings, sacrificed to the manes of their ancestors—a barbarous oblation, founded on the wildest and most savage superstition, denominated by them, "the watering the graves of the deceased royal family." There are some remarkable instances of the savage cruelty of these natives of Guinea, given by Governor Dalzel, in his History of Dahomy—in which, if pestilence could be the produce of the putrefaction of animal bodies, we should expect to hear of the most direful pestilential epidemics—but in which no such result is even noticed.—"It being now noon, they sat down to dinner on the ham and fowls they had brought with them; but were so annoyed by flies, they could scarce put a morsel into their mouths, without taking in some of these vermin with it. They little thought whence this nuisance proceeded, else they would have made a much shorter dinner; nor was it till about 3 o'clock, when, being desired by a messenger from the great captain, to come to the king's gate, that on their way they perceived, with no small degree of disgust and horror, two heaps of dead mens heads, piled up on two large stages, and covered with swarms of their late visitors, the flies. The interpreter told them, "they were *the heads of four thousand* of the Whydahs, who had been sacrificed by the Dahomans to their god, *about three weeks before*, as an acknowledgment of the great conquest they had obtained." The king of Abomey, Ahadee, lived in a kind of charnel-house, yet was healthy, and 70 years old when he died. Dalzel thus describes this singular palace: "The author had once an occasion to pass the limits of the courts already described, when king Ahadee was sick, and would see him in his bed-chamber. This was a detached circular room, of about eighteen-feet diameter. It had a thatched conical roof; the walls were of clay, and white-washed within. There was a small area before it, formed of a wall about three feet high, the top of which was stuck full of *human jawbones;* and the path leading to the door was paved with *human skulls*,—the area within was also paved with skulls, which I understood were those of neighbouring kings, and other persons of eminence and distinction, whom having taken prisoners in the course of his wars, he had placed there, that he might literally enjoy the savage gratification of trampling on the heads of his enemies*."

8. The Greeks and Romans were remarkable for the order and cleanliness of their camps, for their selection of the articles of the soldier's diet, for the salutary distribution of their exercise and rest, and for the energy of their military discipline; and we accordingly find, that their armies enjoyed a proportional degree of health†. When, therefore, we read of any remarkable epidemic in their armies, we shall always, I imagine, find that they were more attributable to local causes than to the neglect of proper management;—still less to the adventitious one, supposed to arise from the effluvia of animal bodies passing through the natural process of putrefaction. This was remarkably exemplified in the army of Marcellus at Syracuse; for although Livy assigns their comparatively superior health to their being more accustomed to the

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* See A. Dalzel's Hist. of Dahomy, 4to, 1793, Introd. 14. 2. Hist. 21, 31, 32, 40, 148, 220, &c. Adahoonzu's apology for the annual customs is curious. How close is the affinity between the manners and customs of all barbarous nations! The watering the graves of their ancestors of the natives of Guinea, is, with the exception of the funeral pile, precisely

> ——— ——— inferias quos immolet umbris,
> Captivoque rogi perfundat sanguine flammas. Virg. Æn. 10. 519.

The Dahomans act on the same principle which influenced Achilles, when he sacrificed twelve Trojans at the funeral of Patroclus (Il. 23.), and Æneas, when he offered up eight youths to the manes of Pallas. Nor indeed was the principle changed in after times, when the Romans substituted the gladiatorian contests, (munera gladiatoria) around the funeral piles of those they were inclined to honour, for these inhuman sacrifices—it was only a refinement of the Dahoman customs. See Livy, Valer. Max. &c. as quoted by Kennet in his Rom. Antiq. 271. Ruæus's ed. of Virgil, in Æn. x. 519. See also Justin for the human sacrifices of the Carthaginians; Dionysius for those of the Gauls; Tacitus of the Germans; and Potter's Antiq. of Greece, Vol. i. 218.

† *See Vegetius* de re Militari, passim. Kennet's Rom. Antiq. p. 212-219.—*Livy, Lib. i., &c.)* Potter's Antiq. of Greece, Vol. ii. p. 72.

attributed morbid causes than the Carthaginians, yet it is much more probable that this proceeded from the care and attention of the commander, and the existing rules of discipline and management. For 1st, It was a calamity felt by both armies;—2d, the season was autumn;—3d, the ground on which they lay was, in its nature, marshy and unwholesome, but much more so on the outside of the city than within;—4th, the heat was intolerable;—5th, although Livy seems inclined to attribute the mortal nature of the distemper, latterly, to the putrefaction of the dead bodies, which they would not at last be at the trouble of interring, and which consequently lay scattered over the ground in the view of the survivors, who were in constant expectation of a like fate; yet he removes the impression of this opinion, by informing us, that the distemper raged with much greater violence and fury in the Carthaginian than in the Roman camp; because, as he before observed, the nature of the ground there was infinitely more unwholesome, and because the Romans, by lying so long before Syracuse, were become more hardened against the air and water—diu circumsedendo Syracusas cœlo aquisque adsuerant magis—by which we are doubtless to understand the exhalations from, and the water of, the marshes;—6th, the contagion which took place might be clearly enough accounted for in two ways—the prodigious accumulation of sick in their hospitals, and their consequently crowded situation, of which, contagion is the invariable attendant in such circumstances—curatio ipsa et *contactus* ægrorum—or by the previous existence of pestilential infection in the Carthaginian army, from whom it might be readily conveyed to the Roman*.—And finally, habit, seconded by temperance, an antiseptic diet, which the Romans constantly used, regular exercise and strict discipline, might counteract the effects of marsh miasmata, as we frequently see they do; but certainly could not oppose any effectual barrier against the morbid action of the effluvia of putrefying dead animal bodies, if morbid action could take place in such circumstances as the historian represents them. These remarks derive much support from what happened to another Carthaginian army before Syracuse, 185 years before the capture of it by Marcellus. The causes of the epidemic on this occasion, as described by Diodorus Siculus, are similar, as far as these could proceed from local circumstances—there is a difference, inasmuch as the malady, described by Diodorus, was attributed to imported pestilential infection. The prevailing opinion at the time (B. C. 397) was, that it was a punishment, inflicted by Ceres and Proserpine, on the Carthaginians, for their having plundered the temple of these deities; but the historian immediately adds—tum ad numinis divini pœnam, hoc etiam, quod multa hominum millia unum in locum convenerant, ipsumque anni tempus ad morborum incrementa efficacissimumque erat, et quod æstas illa ardores insolitus habebat. Locus etiam ipse causam ad hoc præbuisse videtur ut calamitas superaret. Nam etiam Athenienses in iisdem antea castris (B. C. 415.), fœda strage morbus absumerat, propterea quod locus ille palustris et concavus exstitit. Principio enim ante solis exortum, quod frigida ex aquis aura extraharet, horror corporis percellere mox per meridiem æstus suffocare—(Diodori Siculi, lib. xiv. Wesseling's ed. Amst. 1746, tom. i. 697.) The historian, in the subsequent paragraph, informs us, that the disease originated in Africa—ἥψατο μεν ὐν ἡ νοσος πρωτον των Λιϐυων—but that it was augmented after its introduction,—ex insepultorum fætore et paludum putrefactione (δια γαρ την των αθαπτων δυςωδιαν, ϗ την απο των ἑλων ςηπεδονα)—The principal symptoms are those of marsh fever At the commencement, a catarrhal affection, presently succeeded by swellings of the neck, pains in the

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* The frequency of plague at Carthage, furnishes us with room for probable conjecture, at least, that their armies frequently or generally carried fomites imbued with contagion with them in their invasions of Sicily—a conjecture supported by the authority of Dionysius, Diodorus, and Justin. Hence the Romans, under the Consul Marcellus, not having suffered by disease to any extent, before the arrival of the Carthaginians, is easily accounted for. The melancholy, but very interesting history of this epidemic, which proved so fatal to both armies, is contained in Lib. xxv. c. 26. of Livy. "Postremo ita adsuetudine mali efferaverunt animos, ut non modo non lacrymis justoque comploratu prosequerentur morbos; sed ne efferrent quidem aut sepelirent—jacerentque strata exanima corpora in conspectu similem mortem expectantium; mortuique ægros, ægri validos, cum metu, tum tabe ac pestifero odore corporum conficirent,—multo major tamen vis pestis Pœnorum castra, quam Romana, (diu circumsedendo Syracusas, cœlo aquisque adsuerunt magis) adfecerat," &c.—I may here observe, that the "jacerent strata exanima corpora" here mentioned, could not be more productive of pestilence, than the "four thousand heads of Whydahs piled on stages," related by Dalzel—or the 8000 dead bodies of soldiers, and

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a greater number of servants, peasants, waggoners, women and children, and horses, which Diemerbroëk mentions as having lain in a putrid state for a considerable length of time after battle—anno 1642, in agro Juliacensi maxima strages facta est, et ad minimum 8000 militum occisa fuerunt, præter majorem adhuc famulorum, &c. numerum—corpora inhumata sub diu computruerunt, nulla tamen pestis insecuta est.—Diemerbroëk de Peste. I feel particularly gratified in perceiving my sentiments on this interesting subject are, in all respects, correspondent with those of the ingenious translator of M. de Morveau's treatise on *the means of purifying* infected air, from whose note, p. 93, I have borrowed *the foregoing* extract from Diemerbroëk.

the lumbar region, dysentery, and a pustular eruption all over the body, (φλυκταιναι περι την επιφανειαν ὅλην του σωματος). The disease, however, seems to have been contagious—adde quod omnes, qui ægrotis assidebant, eodem modo corripiebantur, (ϗ γαρ οἱ τοις καμουσι παρεδρεύοντες ενεπιπτον εις την νοσον απαντες). But if we fall into the belief of the historian, that the disease originated in an imported infection—a belief sanctioned, indeed, by the frequency of the plague at Carthage (see last note),—we shall have a further proof of the existence of an hybrid-fever, (see my Letter to Dr Haygarth, p. 136); for we cannot suppose, that the effluvia of the putrefying dead animal bodies possessed any efficacy in giving it this mixed character, because the disease existed, and prevailed extensively, before any such supposed cause could have existed, far less operated; and because precisely the same circumstances, imported infection and marsh miasmata, most fatally prevailed only 17 or 18 years before, (B. C. 415.) among the Athenians, under Alcibiades and Nicias. I may here observe, that this very curious fact presents a most forcible argument in support of the opinion, that a plague or a pestilential malignant fever actually prevailed in Athens, and originated in imported infection:—for the expedition under Alcibiades and Nicias took place not long (only eleven years) after the last record we have of that epidemic at Athens, (B. C. 426)*. And we know from very recent experience, that the lapse of several years, and even the most assiduous employment of every means of eradication, are not sufficient to extirpate wholly the seeds of pestilence, once they have been permitted to take firm root in a city, (see my Letter to Dr Haygarth, p. 192).—But whether this application of this fact is admitted or not, yet the fact itself, supported as it is by the joint authority of Diodorus and Thucydides, establishes at least the foreign origin, probably African, of the pestilence of Athens, and seems to preclude all further doubt on that hitherto disputed point. The co-existence of the same calamity in Persia further strengthens this conclusion; at all events, however doubtful this last fact may be considered †, it proves to us, that a disease,

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[*] "In the beginning of winter (B. C. 427), the plague broke out a second time at Athens, *not that during this whole interval of time it had wholly ceased*, though its rage had very much abated. But now the mortality began again, and continued not less than a year." Smith's Transl. of Thucydides, B. iii. M. de Rollin makes it still later, B. C. 424.

[†] Whatever opinion may be generally entertained of the Epistles of Hippocrates, in which this fact is mentioned, and which are the chief authority for it, it is certain that many eminent men have not hesitated to admit their genuineness.

ease, marked by precisely the same distinguishing symptoms, was almost universal at the same period of time, a circumstance which could not be attached to a disorder whose causes were local. The application of this to the pestilence which has lately ravaged the West Indies, the North American States, and occasionally some cities and fortresses of Europe, is obvious. Mr Swinburne and Mr Brydone bear testimony to the unhealthiness of Syracuse. The former observes, that "in summer, the marshes at the head of the port exhale vapours that infect the air, and endanger the lives of the inhabitants. The case must have always been the same. In these fens, the whole Carthaginian army, that came to rescue Syracuse from the Romans, perished of malignant fevers, not one single man escaping."—Travels into the Two Sicilies, Vol. ii. p. 342.

9. In modern times, the epidemics of armies may be almost uniformly referred to the same causes—marsh miasmata, inclement seasons, privation of necessary food, relaxed discipline, and excessive heats in camps, the latter predisposing to the action of the former; and to the crowded situation of the sick in hospitals, and of the healthy in transports and barracks. I say *almost* uniformly, for there are undoubtedly very remarkable and most fatal instances of epidemics arising from an imported infection, as was unhapily manifested in the armies of Sir Charles Grey and Sir Ralph Abercromby, in the windward West India islands; in the army

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ness. Thus Suidas says, ὁυτος εγραφε πολλα, και πασιν εγενετο διαδηλος ὡστε και τον των Περσων βασιλεα, τον καλȣμενον Αρταξερξην, γραφαι Υ'στανην, της τȣ ανδρος σοφιας δεομενον. He then quotes the letter. Suidus in Hippocrate. It has been said, that the existence of Suidas himself is somewhat uncertain. I satisfy myself, however, with the reasons which his editor has considered as sufficient for the establishment of the fact, that he did exist, and flourished in the 10th century—See Preface to Kusterus's ed. Bartholemy admits both the authenticity of the Epistles and the existence of Suidas.—Trav. of Anacharsis, Vol. i. 164. In the epistle of Artaxerxes to Pætus, he says, morbus pestilens apellatus, invasit exercitus nostros—and, from the earnestness with which he calls on him for assistance, it is evident the necessity must have been urgent, and the disease till then unknown in Persia. The expressions are strong—ὀ πολεμȣντες, πολεμȣμεθα, non belligerentes debellamur—ὀ φρωγνωμην consilii inops sum.—The answer of Hippocrates to the Præfect Hystanes, although illiberal in one respect, is truly national and patriotic—Persarum autem divitiis uti, fas mihi non est; neque barbaros homines a morbis liberare, qui hostes sunt Græcorum. In the decree of the Athenians, respecting the services of Hippocrates, they mention the fact—quando etiam peste, a Barbaris in Græciam proficiscente. It is also mentioned in the speech of Thessalus, the son of Hippocrates, to the Athenians, λοιμȣ ρεοντος δια της βαρβαρȣ. (pestis ex Barbaria adflueret). Hipp. *Oper. omnia*, ed. Vanderlinden, Tom. ii. The fact is stated by Thucydides—*et in magnam* partem regionis regis Persarum.

army of St Domingo, and in the garrison of Gibraltar—(see my Essay on the Malignant Pestilental Fever, vol. i. 203-238, and 450.; vol. ii. 116, &c.; and Letter to Dr Haygarth, appendix). Sir John Pringle's excellent treatise on this subject, furnishes ample proof of my general proposition, and precludes any necessity for adducing facts in support of it here. I shall, therefore, only notice the epidemic of Warsaw, because it was expressly assigned to the influence of the effluvia of putrefying dead bodies, and to the employment of carrion or putrid flesh as food. Sauvages thus describes, from Dr de Hahn, (Journal de Medicine, December 1757) the causes of this fatal epidemic—"Morbus epidemicus incepit Februario, post famem quâ pauperes morticinia putrida vorabant, post cædes belli, aëre cadaveribus insepultis infecto, post animi pathemata ex frustrata messe, aliisque ærumnis, adde quod nullo vento expurgata fuerat dudum atmosphera." (Nosolog. Method. tom. i. 334. Tritæophya Vratislaviensis). That famine is often the precursor of pestilence, is an observation justified and sanctioned by the experience of all ages*; but whether it is so by the nature or quality of the food used in such deplorable circumstances, or by the extreme debility consequent upon the privation of the necessary quantity for the support of life, seems to admit of little discussion, although it has been subjected to much. For we know with certainty, that epidemics, most fatal epidemics, have proceeded from privation, not deterioration of food. Bengal has furnished one of the most remarkable instances of this, in the year 1770;—the natives perished by thousands from the dearth of their accustomed food, rice; their religion prohibited the use of animal food in any state or shape; and we therefore can assign the mortality, not to the nature or quality of their food, but to privation of the necessary quantity of it. On the other hand, we know, with equal certainty, that some carnivorous animals, nay, that some savage or half-civilized nations, *select* for food, carrion (morticinia putrida), or the putrid flesh of animals, which have been slaughtered or killed in a healthy state, not destroyed by disease, with impunity—with nutritive effect. Spallanzani furnishes a remarkable proof of this. "I brought a pigeon," says he, "to eat not only fresh flesh, but such as was fœtid, and even completely putrefied. The bird at first absolutely refused it, and I was obliged to force it into the stomach: for some days, it suffered from this treatment, and became evidently leaner. But by degrees, nature became inured to the food, and the pigeon, stimulated by hunger, took it spontaneously, till at last it recovered its plumpness; and now its appetite for tainted, was as keen as it had been before for sweet meat. We may learn from this instance," continues he, "that custom is capable of changing disagreeable, and even noxious food, into good nourishment." He farther observes, that besides many loathsome insects which delight in corrupted animal substances, there are many birds, the crow, the kite, the vulture, &c. and quadrupeds, the chacal, the hyæna, &c. that seek tainted flesh, "while other animals fly the miasmata that arise from bodies in such state, these seek and are guided by them to their abominable repasts." (On Digestion, Dissert. vi. Eng. Transl. vol. i. p. 283-288). Mr Paterson's account of a new tribe of Hottentots is very much in point. He says their living is in the highest degree wretched, and they are the dirtiest of all the Hottentots. They feed upon a whale or grampus, accidentally cast on shore, as long as it lasts, and even when it is reduced to so putrid a state as to become in the highest degree offensive. They besmear their skin with the oil, by which means they smell so exceedingly rank, that their approach may be thus perceived before they come in sight, (Encycl. Britan. Hottentot). Mr Forster, describing the Kalmuck Tartars, says, "there is not perhaps on the face of the earth, a human creature who lives on coarser fare, or to a civilized people, more disgusting, than a Kalmuck Tartar. ---Raw putrid fish, or the flesh of carrion, horses, oxen, and camels, is the ordinary food of the Kalmucks; and they are more active and less susceptible of the inclemency of the weather, than any race of men I have ever seen." (Journey from Bengal to England, p. 258)*. Hence then, as Spallanzani justly concludes, it

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* αυτικα γαρ λιμος νουσος εστι—quare statim ubi fames molestat morbus fit.—Hipp. de Flatibus.

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* So just is the observation of Lucretius:

Nec refert quidquam, quo victu corpus alatur
Dum modo, quod capias, concoctum didere possis
Artubus, et stomachi humectum servare tenorem. Lib. iv. 634.

For nought imports it, what the food employ'd,
If but the stomach into genial tides
Concoct it sole, and pour through every limb.—Good.

Cook (3d Voy. Vol. ii.) Dixon (Voy. p. 173.) and La Perouse, (Voy. Vol. ii. 134.) all agree in their description of the astonishing filth of the native Indians of Port St Francis, on the north-west coast of America. La Perouse says, their cabins possess a nastiness and stench, to which the den of no known animal in the world can possibly be compared. They never remove more than two steps for the performance of any necessary occasion; and during a meal, they retire for this purpose only four or six feet, and take their places again. Cook is still more explicit: "They dry their fish within doors, gut them there, and these, with it appears that the various classes of animals, and man among the rest, in an healthy state, are endowed with the power, not only of checking the putrefaction of substances lodged in their stomachs, but also of correcting them when already putrid. The inference which, I apprehend, may be drawn from these remarks and facts, is, that the flesh of slaughtered animals, or animals which are not killed by disease, rendered putrid by the usual natural process in contact with atmospheric air, does not morbidly affect the system of living, healthy animals, which from choice, accident, or necessity, make it their food; and that consequently, the morticinia putrida of Dr de Hahn, does not seem to have been the cause of the pestilential fever of Warsaw, described by him. What then were the probable causes of it? Modern travellers have happily, but undesignedly, explained the mystery.---The explanation is found in the crowded and wretched population, in hovels where external air in winter has no access, and where respiration consumes the vital energies of the air, thus confined within narrow and close limits. This, joined to privation of the necessary quantity of food for the support of life, and the distress of mind consequential upon the disappointed hope of an abundant harvest, and the horrors of a cruel warfare, was abundantly sufficient for the production of a fatal epidemic pestilential fever, even without resorting to the local circumstances of the city, from which we should expect an annual destructive marsh fever*.

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with the fragments of their meals, and the addition of all other sorts of filth, lie every where in heaps, and are never carried away. In a word, their houses are as dirty as hog-sties." And yet these people seem to be acquainted with some of the more necessary arts of civilized nations, and enjoy uninterrupted health. To what mischief, to what pestilential calamities would this

——— semperque recenti
Cœde tepibat humus———

give rise to in the United States of America!—But if man is the child of habit, then the den of Cacus, to the Indians of Port St Francis, is the Temple of Hygeia, and to the inhabitants of the N. American States, cleanliness and decency the source of pestilence!

* Mr Wraxal gives a most deplorable account of this city. It unites the extremes of civilization and barbarism, of magnificence and wretchedness, of splendour and misery. Prince Radzivil, one of the greatest Polish noblemen, when coming to court in his coach, drawn by the finest set of horses in the kingdom, so completely stuck fast in the mire, at a hundred yards from the royal palace, as to make it necessary to take him out and carry him thither in the arms of his servants." Warsaw was unpaved before 1763,—and "in front of Stanislaus's Palace, so indecently neglected are the sewers, that the smell is pestilential." The people accord too well in their appearance with the aspect of every

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10. Another argument arises out of a very curious and well known, but imperfectly understood fact, in the history of pestilential fevers. Did these fevers proceed from any but one certain undeviating cause, of the true nature of which we know almost nothing, we should find them deviating in their character, according to the diversity of cause. We see indeed, an hybrid pestilence, i. e. a pestilence whose type is remittent, from a concurrence, in the same person, of its peculiar cause and marsh miasmata;---but where that peculiar cause exists not, although the effluvia of putrid animal matter may be present concurrent with the miasmata of marshes, these miasmata never fail to produce those fevers which are their pure and defined offspring---but here contagion has no place.

In those instances of plague or other pestilential fever, in which the contagion is resisted by the constitution of the person exposed to it, this effect is produced by something in the system of that person which is capable of decomposing the virus, and of entering into new combinations with the constituent principles of its basis. This is supported by experience and observation; and is illustrated by what we almost always see happen to such persons under a new arrangement of circumstances. Let persons thus exposed to pestilential contagion with impunity, receive into their systems a new substance, which may disturb the process of decomposition and combination, either by suddenly stimulating the nerves, or by manifesting a stronger affinity to the *antidotal* principle

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thing around them. I never beheld so many objects of horror or compassion, as present themselves in the streets; many of these are a disgrace to humanity, as well as a reproach to the national police." Memoirs of the Court of Berlin, Vol. ii. Let. 18. Mr Coxe speaks in the same unfavourable terms.—He states the population of Warsaw at from sixty to seventy thousand. "The whole town has a melancholy appearance, exhibiting that strong contrast of wealth and poverty, luxury, and distress, which pervades every part of this unhappy country. The greatest part of the houses are mean and ill-constructed wooden hovels." Travels, Vol. i. 170. Dr Vicat, in his account of the Plica Polonica, assigns it to causes which illustrate the present subject—The bad air, arising from woods and marshes, bad water, and want of cleanliness.—Ibid. p. 232. Sauvages, on the authority of Erndiel, in his Varsovia Physice Illustrata, assigns the Plica to a cause which must act generally—principia hujus morbi sunt abusus aquæ vitæ, alimenta acria et viciosa, *et incredibilis horum populorum sordities.*—Nosol. Meth. tom. ii. 606. It may very justly be asked, if this was the cause of the pestilential fever of Warsaw in 1757, why did not similar events take place on former occasions, when carnage was still more horrible?—for the history of Poland is in truth little more than a series of wars, of a most dreadful and exterminating nature—and yet we hear of no remarkable fevers proceeding from them, or rather arising out of them in the mode described, until De Hahn discovered it.

principle possessed by the constitution, and thereby leaving the pestilential virus undecomposed:—in such a case, the pestilential virus will have full and uncontrouled play, and will produce its usual effects. Such a substance as that I have mentioned, is the poison of fish for instance:—other causes are hyperoxygenation, by entering into the tropical climate whilst the system has received the contagion, violent exercise, evacuating medicines acting violently, sudden emotions of the mind. Of the efficacy of the three last causes, an infinite number of instances were furnished in the year 1795, at St George's, Grenada, where the "incolæ vel climati assueti" were as much afflicted, and suffered as much by the pestilential virus, as the "nuper advenæ." (See my Essay on the Malignant Pestilential Fever, Vol. ii. p. 231-234). M. Morveau, therefore, justly observes, "it is always some diminution of the vital force that renders the resistance unequal, and the action of the poison efficacious—and this may take its rise from a moral affection as well as a physical impression." (Treatise on Purifying Putrid Air, &c. p. 184). The nature of the contagious miasmata continues always the same*.

The

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* Before I close this paper, already, perhaps, too long, I must take leave to express my regret, that modern writers too frequently take on trust what has been supposed to be the sentiments of preceding writers on the subject of pestilential fever. I am sorry to remark a prominent instance of this, in a late work of considerable merit and value.—The following passage of Dr H. Robertson's book on the N. H. of the Atmosphere, (Part iii. c. 3. § 2.) is certainly not sanctioned by Du Tertre—"It is to be observed," says he, "in the history of the typhus flava of the W. Indies, that *Pere Tertre, an apostolic missionary,* who lived in the islands of St Christopher's, Guadaloupe, and Martinique, from 1640 to 1648, gives a very minute account of the history of these climates, *but makes no mention* of a contagious fever existing in them, though he is otherwise very particular in the description of a fever which, he says, was ordinarily met with in that country, but which does not appear to have proved uncommonly mortal, or to have been accompanied with a yellowness of the skin." Dr Robertson will find, I think, on a reference to Du Tertre's Histoire Generale des Antilles habitées par les François, tom. i. p. 422, that his quotation is not correct.—"Durant cette même année 1648, *la peste,* jusqu' alors inconnue dans les iles, depuis qu'elles etoient habitées par les François, y (Guadaloupe) fut apporteé par quelques navires; elle commença par Saint Christophe, et en dix huit mois qu elle y dura, elle emporta près du tiers des habitans," &c. He treats fully of the endemic diseases of that early period in Tom. ii. p. 477. An attentive perusal of my account of Martinico and Barbadoes, (Essay, 2d. ed. Vol. ii. p. 99, 110, and 170, 180.) will probably throw further light on the subject. I imagine Dr Robertson will also find, on a reference to my Essay, Vol. i. p. 203-207, and to my letter to Dr Haygarth, p. 46, that the cause of the fever which proved so destructive to the St Domingo army which sailed from Cork in 1796, had a different origin from that to which he assigns it, inasmuch as direct proof differs from probable inference. The reader will derive much instruction from a comparison of Mr Tytler's and Mr

Royston's

The conclusions which seem to result from the consideration of these premises collectively, and thus imperfectly stated, are, I apprehend—

1. That the theory of ingenious chemists, founded on experiments or speculations, to prove the pestilential influence of putrid animal effluvia, receives no support from practical knowledge, or the known economy of nature.

2. That in no known and well ascertained instance, are putrid animal exhalations productive of pestilential fevers.

3. That in a concentrated state, they either become a mephitic poison, producing asphyxia and instantaneous death, or seem to produce fevers of a malignant, indeed, but not pestilential nature.

4. That in every instance which seems hitherto to have been investigated, wherein putrid animal effluvia have been supposed to be the cause of epidemic malignant fever, other agents of a less dubious, better-known and well-ascertained nature, exist, such particularly as marsh miasmata, and the exhalations from stagnant water and damp unventilated places; and the types or forms of such epidemics thus attributed to putrid animal exhalations, are such as are known to be the peculiar product of marsh miasmata, being uniformly marked with exacerbations and remissions, or paroxysms and intermissions. Contagion and marsh miasmata, (10.), may act conjointly in the same person, but the character of each respective action is manifested; but when marsh miasmata and putrid animal effluvia are present at the same time, no action but that of the former is manifested—the latter exhibits none of a morbid character.

5. That all, or almost all those manufactures, in which putrid animal exhalations are evolved, are no further injurious than by being nuisances by the fœtor which they emit.

6. That as nuisances, but not as causes of disease, they should be as much as possible removed from the habitations of men.

7. That putrid animal exhalations, which cannot be supposed to possess within themselves, or which have not, from the circumstances of the situation or manufacture in which they are evolved, a principle of decomposition, and a capacity of entering into new combinations; and are consequently the true uncombined product of animal putrefaction; are not injurious farther than by their offensive fœtor.

8.

Royston's summary of the opinions respecting the endemic and foreign origin *of the* malignant pestilential (" yellow") fever, with the very short history given *by Dr* Robertson—N. Hist. of Atmosphere, Vol. ii. p. 390-393.

8. That very little probability exists that putrid flesh, rendered so by the natural process, which from selection, accident, or necessity, becomes the food, is injurious to the health of men; a provision being made in the gastric juice of the stomach, by which such food is rendered not only harmless but nutritious.

9. Viewing the whole of the subject, (see Edin. Med. Journal, January 1810, p. 44-48) both in relation to the pestilential epidemics of brute animals, and of the human race, and inquiring into their reciprocal capacity of being communicable from the one class of animals to the other, I imagine there is sufficient evidence in our possession, that such capability does not exist;---that the aura, or emanating gas from the diseased brute animal, does not produce disease of any description in a healthy human being exposed to it;---that a human being feeding on, or receiving into his system, the flesh of a pestilentially diseased brute animal, may certainly have disease excited thereby in his system, but a disease of a nature altogether new, and terminating with him, either in cessation of disease or extinction of life;---that the same series of cause and effect may take place, when brute animals feed on, or take into their system, the flesh of a pestilentially diseased human being:---but that there is solid ground of belief, that such series of cause and effect is provided against by the instinct of the former, directing them to what is beneficial to, guarding them against what may be destructive of, life.

10. That as there is a necessity for the dissolution and reduction to their primary elements of animals, in order that the series of succession of animated nature may be maintained; so would it evince an unaccountable deviation from the compensative economy of God, should the process of that dissolution and reduction be productive of injurious effect, when the ultimate purpose of it is beneficial and compensative.

11. That the dissolution and reduction to their primary elements of animals, may be considered as the physical link connecting the dead and the living, inanimate and animated nature---the one and the other mutually depending on each other, reciprocally contributing to each other's support.

Finally, That the result of the whole is---that in this, as in all things else, the wisdom, the mercy and goodness of God are manifested; that in this, as in all others, "the works of the Deity are known by expedients;"---for as the putrefaction of dead animal bodies is necessary to the accomplishment of the purposes of divine providence---for "that which thou sowest is not quickened except it die"---so the living, for whose existence it is, in a general sense, necessary, either do not experience it as an evil, are removed *from*, or have a compensation for it.

If it be said, (I use the language of Paley) if it be said that this is to enter upon a religious rather than a philosophical consideration—I answer, "that the name of religion ought to form no objection, if it shall turn out to be the case that the more religious our views are, the more probability they contain,—that the more we let in religious considerations, the more we let in light on the difficulties of nature." True philosophy and religion are one and the same thing;—if the light of the latter exists not, the disquisitions of the former must be enveloped in darkness.—In my opinion, they must stand or fall together.

Clifton, May 9th, 1810.

II.

Extract of a letter to N. Bruce, Esq. Surgeon to the Forces, concerning the Endemical Fever of Sicily. Originally communicated in Sept. 1809 to Dr Franklin, Inspector of Hospitals, by Alexander Boyle, Surgeon, 62d Regiment of Foot.

As I had observed, some time before the return of the troops from Ischia, a disposition in the fever, prevailing in Melazzo, to assume the form of synocha; and aware of the ravages *fever* had made among the corps quartered in that district, for some seasons previously to my visiting that part of Sicily, I resolved to watch its progress.

In the first cases which offered themselves to my notice, and which occurred about the beginning of July last, there appeared little which could, in a particular manner, demand my attention, beyond what is generally observed in those fevers to which we usually give the name of synocha.

At this period (from which we may date the commencement of the disease this season), it was ushered in with a cold stage; there was great languor and lassitude; hot dry skin; frequent and full pulse, and great thirst. The tongue was white and moist; the countenance flushed; and the eyes more or less diffused with blood. Headach, giddiness, and lassitude were, however, the symptoms of which they chiefly complained.

Until the middle of July, however, cases of fever were very rare; and such as did occur were easily overcome by cold affusion, a free use of saline purgatives, and plentiful draughts of iced lemonade.. Blood-letting, at this period, was not necessary.

sary. In two cases, which occurred in children, the disease terminated by hæmorrhagy from the nose; and in both, it was followed by a pustular eruption about the head and face. In a healthy girl of seventeen years of age, it followed the sudden interruption of the menstrual discharge, and ceased soon after that re-appeared.

Though I kept no regular meteorological tables, I remarked that the weather, from about the 1st of July, became extremely oppressive, and that no rain had fallen for several weeks; the thermometer usually ranging from 84° to 88°, and a Sirocco wind generally prevailing. But the facility with which the disease was in these cases overcome, as yet led me to expect nothing extremely alarming.

On the 15th, however, two men came from the telegraph post at Archi, near Melazzo, which had always been deemed an unhealthy spot. Their cases, of course, became extremely interesting. From the great mortality at this place, it was never visited without apprehension. It became, therefore, a matter of importance to ascertain how far such apprehension was well-founded. I went there, accompanied by Dr Calvert, physician to the forces; and we were aware that the situation was reputed unhealthy, from exposure to what, in Sicily, is generally called *mal' aria.* If by this is understood nothing more than *marsh miasma*, it may be said, that, though in autumn it may become the parent of many intermittents, at the time of our visit, there appeared no probable source from which it could be produced; and, except one small inconsiderable stream, there was not a drop of water within two or three miles of the place. We ascertained, however, that the daily duty of the three men at that telegraph, exposed them alternately to the action of the solar heat, as long as it was possible to communicate with the adjoining posts. This discovery was at least sufficient to satisfy us, as to the object of our inquiry; and, without the assistance of other agents, it will be allowed to be adequate to the production of the appearances discovered on dissection, in two cases I am about to relate.

The first whom I saw, observing the situation of his two companions, hastened to Melazzo. He rode about five miles. His pulse was weak and trembling, and about 110 in the minute. The muscles of his face were relaxed, and his countenance was pallid. His eyes were not red and suffused with blood, but had a peculiar lustre; and the pupils were much dilated. There was an unusual secretion of tears, and a discharge of mucus from his nostrils. His skin was cool, and covered with sweat. His tongue was white, and his bowels had been costive for several days. He complained of giddiness, headach, and lassitude. He was able to give some account of the two men he had left behind, but his recollection often failed him. Though he could stand erect and walk, his eyes appeared to deceive him, as to the relative situation of objects, and he stretched out his hands to direct himself. He had been unwell eight days; and his complaints began with languor, lassitude, giddiness, and headach, which had always continued, but had not before prevented him from attending to his usual duty. His general appearance approached nearly to that of a person affected with slight concussion of the brain, or in a bad state of typhus. By this, unfortunately, I was deceived; and, allowing myself to be guided by the state of the pulse, I did not bleed him. I ordered a large blister to be applied to the nape of his neck; he took eight grains of calomel, and a purging clyster was immediately given. Next morning (the 16th) he could scarcely give any account of his feelings; his pulse had become somewhat fuller, but did not continue regularly so during the whole day. I now observed some slight twitchings of the muscles of the face. He had several evacuations, by stool, during the night, and this morning he vomited much bilious matter. The temperature of his body was now greater than natural, and his skin dry. I ordered his body to be sponged over with cold water; his head to be shaved; and snow and iced water to be applied to it. Though he was in state of coma, this application produced such uneasiness, that it could only be continued for a few minutes. Towards the afternoon he became much worse, and the pupils, which continued dilated from the beginning, were now quite immoveable. His breathing became very laborious; his pulse slow and irregular; he foamed at the mouth; and was occasionally convulsed.

Though I was convinced the favourable opportunity was past, I resolved to take some blood from him; and I accordingly opened the temporal artery. The effect surprised me; for, while the blood was flowing, his breathing became perfectly easy, which encouraged me to take a pretty large quantity. In the evening, however, his breathing again became laborious, the convulsions very frequent, and early next morning he died.

On opening the scull, nothing uncommon was discovered on the external surface of the dura mater. Its sinuses, however, were gorged with blood, and the small veins, leading to the longitudinal one, much distended. Between the dura and pia mater, there was a small quantity of serum effused; and the surface of both, in the neighbourhood of the longitudinal sinus, was covered with that sort of matter which is observed on the peritonæum and other membranous parts which have suffered from inflammation.

mation. Adhesions had also taken place; and in two or three places small abscesses were formed. In the ventricles, and within the substance of the brain, nothing uncommon was found.

The treatment of the other patient fell to Dr Calvert, and was nearly the same as in the above, with the exception that he was not bled. He was admitted into hospital on the night of the 15th, and died on the evening of the 16th, having been unwell about six days. His death was more sudden than in the other, and was not preceded by the same violent symptoms. The pupils always shewed more contractility.

On dissection, fewer adhesions were found between the membranes of the brain; but the same sort of matter was poured out on their surface; and this also more particularly contiguous to the longitudinal sinus, which was gorged with blood. The substance of the brain appeared more vascular, and was much redder than usual. In one of the ventricles there appeared a few red globules, diffused through the serum, which, in neither, exceeded the usual quantity.

Though we had been unsuccessful in the treatment of these cases, it afforded me much satisfaction to have been enabled, by the appearances on dissection, to form a more correct idea of the nature of the disease than that generally entertained on the subject. In these cases, I suppose, from the slow and insidious progress of the disease, that the inflammatory action, during the first days, had not been very violent, and might, perhaps, have been what Dr Paterson calls a *phrenicula*, or what nosologists distinguish by the name of *cephalitis*; for, during a whole week, they continued at their usual duties, and never complained until the disease had assumed that fatal and deceitful form peculiar to the *second* stage.

I can easily conceive that these symptoms have led many into error; and that, whatever may have been the treatment at the beginning, from mistaking the symptoms of effusion for those of the debility of typhus, barks and wine were immediately had recourse to, and thus hastened the fatal termination.

On the 31st of July the 62d regiment disembarked at Melazzo, and in a few days *this fever* made its appearance among the men. The above cases may be sufficient to shew the appearance of the disease throughout the whole of the *second* stage; and, as out of 240 patients admitted into hospital, affected with it in every degree of violence, not one case terminated fatally, I shall endeavour to point out the symptoms peculiar to the *first* stage of the disease, as they were observed in that number.

It did not appear to attack the robust and plethoric more frequently than the weak and delicate; though, in the former, its symptoms were always more violent. In the majority of cases, it was ushered in with a cold stage; while some complained of giddiness and languor for several days previously to the accession of any regular paroxysm, which, however, was always a certain occurrence. When thus suddenly attacked, they complained of violent headach and giddiness, with throbbing pain in the temples, attended also with languor and lassitude. The pulse, in the early part of the disease, was full and strong, and often exceeded 100 strokes in the minute. The countenance was most commonly florid; but when giddiness had for a long time preceded the violence of the attack, it was pale and relaxed. The eyes, which were but seldom suffused with red, had a remarkable lustre, and were extremely sensible to light, which, as well as the least noise, gave great uneasiness. The bowels were always costive. The tongue was generally moist, and invariably covered with a white or yellowish mucus, and red about the edges. Though they generally complained of thirst on the first days of their illness, it never formed an urgent symptom, and the sensation entirely abated as the disease advanced. The skin, at the beginning, was hot and dry, the temperature often 102°; and, when the disease was about to terminate favourably, profuse sweating often occurred. Though there was in every case great drowsiness, approaching to stupor, they never enjoyed sleep.—I never observed, even in the most severe cases, phrenitic delirium. They, on the contrary, lay motionless in bed, and appeared uneasy when disturbed, or roused from their apparent slumbers. Nausea was always present, and in three cases it was attended with obstinate bilious vomiting. During the course of the disease, I have sometimes met with pulmonic symptoms.

It appears to me, that the cases which occurred at the first appearance of the disease, were, *in general*, more violent than they afterwards proved to be, towards its decline, or when it was becoming to be less frequent. This took place about the first September; the weather had become cooler, the thermometer having fallen to 78°. There were also some showers of rain, with thunder, about this time.

Among the vulgar, both in Sicily and Calabria, most of the diseases peculiar to the climate, particularly those of a malignant nature, are attributed to what they call *mal' aria.* This language has even been adopted by some professional men; and I dare to say, the investigation of the nature and origin of diseases has thereby been not a little retarded. If it is meant to imply nothing more than *marsh miasma*, there can be no necessity ty for changing the phrase, particularly, as that substituted is by no means more philosophical or scientific; and as such change can only throw obscurity on a term, the import of which is already well understood. To this cause, then, the fevers prevailing in Melazzo and its neighbourhood, during the hot months of summer, had, for a long time, been attributed; and it was solely from the information gained by dissection, that we have been enabled to trace, with much certainty, those fevers to the powerful action of the solar heat, occasionally aided by intemperance, violent exercise, and the like.

While the excessive heat prevailed, the character of the disease continued invariably the same; but, as I have already observed, about the 1st September, it not only became less violent in its symptoms, but also occurred less frequently. From the disembarkation of the 62d regiment, on the 31st July, until the end of August, it was common to see sixteen or twenty soldiers, affected with it, brought to the regimental hospital, in the course of one day; but, between the 1st and 10th September, only fourteen cases appeared; and, as the weather became cooler, with frequent showers and strong winds, it entirely gave place to diseases of a different nature.

I have only met with three cases in which it was followed by intermittent fever; and I have since met with one case, in which, during the state of convalescence, the patient was seized with remittent fever, obviously observing the tertian period, and accompanied with severe diarrhœa. But it must be observed, that these were the only cases of the kind which did occur; that they appeared at the close of the season, and were sufficiently distinct in their nature.

Soon after the disease appeared among the men, the necessary means were taken to counteract and avoid its causes; and, in order to afford more room in the barrack, one company was sent on board a vessel anchored in the harbour; and it is worthy of remark, that though it continued embarked nearly during the whole time the regiment was quartered in Melazzo, a period of eleven weeks, it afforded only one solitary case. Even among the companies ashore, there was a striking difference with respect to the proportion of men attacked. In one of the quarters, the men slept in the walk surrounding the area of a convent, exposed to the open air; and during the day, they always availed themselves of the protection it afforded from the excessive heat of the sun. In this company only ten men were attacked, while in some other companies, which did not enjoy these advantages, the number exceeded thirty. These circumstances, which were so useful in preventing this company from being seized with the prevailing disease, exposed it, however, to those of a different nature. Diarrhœa and rheumatism were common in it; and it furnished more cases of ophthalmia than all the other companies put together.

Among the diseases affecting the brain, or its membranes, we must expect to find a strong analogy, and many symptoms in common. Those which the disease in question most resembles, are cephalitis, phrenitis, and hydrocephalus internus.

I have already said, that (in upwards of 240 patients, all soldiers,) I did not observe a single instance of wild and furious delirium. Even when the pulse was full and quick, giddiness, and a tendency to deep sleep, were the symptoms which first caught the attention; they were the first complained of by the patient, and were always the most lasting.—So far the disease differed from phrenitis, strictly so called. It must also be observed, that, in the only two cases in which I had an opportunity of examining the appearances after death, the inflammation had not only affected the dura and pia mater, but had greatly injured the organization of the brain itself. There was congestion in the sinuses, and effusion of serum and coagulable lymph. How far this complication of morbid appearances may associate the disease with cephalitis*, or account for the peculiar modification of its symptoms, I shall not take upon me to determine; neither am I very anxious to ascertain in what part of the organ the inflammation commenced, as such discovery could, in no degree, influence the mode of treatment.

It would, indeed, be an endless, and not less an unprofitable task, to attempt to mark every accidental modification of disease by an appropriate name, or to assign for it a place in nosological nomenclature. " Imo etiam ubi distributio in species reperitur, id fit plerumque, ut hypothesi alicui, quæ veris phænomenis substruitur, suus reservatur honos; ac proinde ejusmodi discriminatio non tam ad morbi, quàm ad authoris ingenium, philosophandique theoriam accommodata est. Quantum medicinæ obfuerit ἀκριβείας hâc in parte defectus, ostendunt multorum morborum exampla; quorum nempe curationes hodie non desideraremus, si scriptores, dum experimenta et observationes medicas benevolo saltem animo communicarint, immo scilicet speciei morbus pro alio speciei diversæ substitutus non fefellisset, atque hinc etiam arbitror profectum esse, quod materia medica in sylvam tam immensam sed fructu perexiguo excreverit*."

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* Though this term may be somewhat exceptionable, I have adopted it, as it was necessary to make some distinction between *simple fever* and this disease; and as the former term conveyed very vague and erroneous ideas of its nature.

With respect to hydrocephalus internus, the analogy is not so great. It is produced by different causes, and is much slower in its progress. It is peculiarly the disease of early years; often appears hereditary; and is more certainly fatal. Like it, however, it is also marked by two distinct stages, as more particularly noticed in the cases which came from Archi. In hydrocephalus internus, the brain may suffer much from the pressure of accumulated serum before it produce death; in this disease, the quantity of effused serum was inconsiderable, while the destruction of parts by inflammation was very extensive.

Indeed, when an organ so important as the brain, on the healthy state of which, not only sensation, but the due performance of every function depends, becomes the seat of disease, we must expect to find great derangement of the whole animal economy, the symptoms of the local affection not appearing merely as such, but as indicating general disorder of the whole system.

On this account it happens, that between the simple synocha and phrenitis, we can, with no degree of precision, draw the line of distinction †. To the same cause also it is, perhaps, owing, that in so many diseases described as simple fever, we find the affection of the head forming so conspicuous a feature; in many of which, I am convinced, this local affection is primary, and essential ‡.

Of this kind, I suspect, are many of the fevers peculiar to warm climates; in the production of which, the intense heat of the sun is allowed to have so considerable a share. Though such fevers belong almost exclusively to the warmer regions, they are also occasionally met with during the summer in more temperate climates. Their progress is, for the most part, quick and rapid, and they cease entirely, or at least are greatly modified, on the approach of autumn.

As I, therefore, have no doubt that the chief cause of the disease which prevailed in Melazzo last summer, and which has hitherto proved the most fatal among the troops in Sicily, was the intense heat of the sun, I have always considered the fever attending it as merely symptomatic of the inflammation within the skull. The manner in which the general febrile symptoms follow, with proportional severity, the affection denoting topical lesion of the organ concerned, is distinct and obvious; and the means had recourse to, and which prove most useful when directed to the relief of the local affection, procure also the most permanent and sudden cessation of the general febrile excitement. I have, therefore, no hesitation, guided by the proofs afforded by dissection, in classing this disease with the phlegmasiæ.

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* Sydenhami Opera.

† Wilson, Vol. III.

‡ May the fever which lately prevailed at Gibraltar have been of this nature?

Other fevers, however, peculiar to these climates, and in which an affection of the head also forms a conspicuous symptom, undoubtedly belong to the tribe of intermittents; and widely differ from the disease in question. In the writings of Torti, they are particularly described under the title of *Febres perniciosæ comitatæ;* and in Book iv. Chapter 3. of his *Therapeutice specialis*, we find a collection of cases in which it took place. The fever, which this symptom attended, belonged to the type of tertian remittent, and it was never observed to occur until the *fifth or seventh day, and often at a more advanced period.* It therefore obviously formed a complicated disease, produced by a pure phlegmasia affecting that particular organ, supervening at some uncertain period of the original fever. Blood-letting was often had recourse to in order to relieve the immediate urgency of this symptom; but it was soon followed by doses of bark, by which the cure was finally effected.

In the disease, however, which prevailed in Melazzo, the cause and effect were simultaneous; for, whether the patient suddenly fell motionless on the ground, or complained only of headach and giddiness, these symptoms, whatever interval might take place, I may say invariably preceded the formation of the febrile paroxysm.

Inasmuch as relates to the *period*, at which the affection of the head appeared, it approached more closely to the *causus*, or *febris ardens*. "Erat enim constitutio febrium ardentium in hoc modo. *Ab initio* soporosi, anxii, horridi; febris acuta, non valde siticulosi, non deliri. De naribus parum stillavit. Exacerbationes plerisque diebus paribus*," &c. These also were most commonly met with during the summer season; they affected chiefly young robust people who used much exercise, or happened to be travelling, and did not sufficiently guard against the influence of the sun; or such as exceeded in the use of hot stimulating diet; and, in certain habits of body, they were often complicated with cephalitis and phrenitis†.

The cases here quoted are, however, referred to the "*continua remittens.*"

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* *Hippocrat.* 1 Sec. 3 Lib. 3 Epid.

† *Burserii Opera,* Vol. II.

remittens." In the summer season they shewed a stronger disposition to preserve the nature of ardent fever than towards autumn, particularly if intermittents prevailed, or after the inflammatory diathesis, with which they were at first complicated, had been subdued.

It would almost be endless to describe every variety of fever of this kind mentioned by authors. I shall, therefore, advert only to another; which, I am inclined to think, was a disease of the same nature as that observed in Melazzo during this and former years. It is to Lucian we are indebted for this singular record. The disease appeared at Abdera during the middle of summer; it was evidently produced by the intense heat of the sun; its attack was sudden, and not one in the whole city escaped it. The delirium which attended this disease was not of the furious and ungovernable kind; and it terminated about the seventh day, with profuse sweating, or hemorrhagy from the nose. The circumstance which, in the relation, most strikes our notice, is the pertinacious manner in which the mind pursued the same train of ideas which had grown familiar by habit, or had been made powerful by strong momentary impressions. It is said to have first broken out among the citizens at the theatre, where they had assembled at noon, while they attended, with admiration, to the performance of one of the plays of Euripides.

The story, however, is perhaps too well known to require to be related here.

Taught, as I was, by the fatal issue of the cases which came from the telegraph, I could not long hesitate as to the method to be pursued in the treatment of this disease. Some slight cases, as at first, were cured by cold affusion and purging; but to these remedies alone I very seldom trusted. Copious blood-letting was what I chiefly depended on. In the use of this remedy, I was never entirely directed by the state of the pulse, particularly after some days had elapsed, the headach and giddiness appearing more certain guides; and I often found, that, in such cases, these symptoms were relieved even while the blood flowed, the pulse gradually becoming fuller, and more regular.

It is perhaps difficult to determine, whether bleeding from the temporal artery ought *always* to be preferred to venesection at the arm. Both, indeed, will afford immediate relief for the headach and giddiness; but I think that obtained by bleeding from the temporal artery is, *in general*, *cæteris paribus*, more permanent[*]. Small bleedings, however, from the temporal artery, are peculiarly applicable to protracted cases, where slight headach and giddiness continue after the removal of the general febrile symptoms; and in which such bleedings at the arm as could produce any relief, would be inadmissible.

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[*] I have met with some Sicilian physicians, well acquainted with the nature *of this disease.* Their method of cure consists chiefly in the application of leeches

As to the quantity to be taken, I have always regulated it by the relief obtained. In a young man, whose pulse was by no means full or hard, but where there was much giddiness and tendency to coma, I took away nearly forty ounces of blood from the temporal artery at one bleeding. In two days he was able to walk about, and quite free from giddiness. Indeed, it appears to me, that profuse bleeding, in this disease, does not leave such permanent debility as in the other phlegmasiæ.

Blistering the head I find another powerful remedy, which ought never to be neglected; and in the circumstance of long-continued giddiness just mentioned, it is of the utmost service. It ought to be frequently repeated.

There is always a great tendency to costiveness in this disease, which ought to be removed. I have therefore made it a rule, observing the relief it produces, to keep up a gentle diarrhœa as long as the symptoms continue at all violent.

Under the head of cold affusion, may also be comprehended cold drink, and cold applications to the shaved head. They are powerful auxiliaries in lessening the violence of excitement, and never fail to be extremely grateful to the feelings of the patient. I have applied pounded ice to the head; but it produces too much pain to be long endured, and, on that account, cold water may be preferable.

I have not been in the habit of using these remedies in daily succession; but, as it were, all at the same time; as I am convinced that a speedy recovery depends entirely on attacking the disease vigorously in the beginning. Indeed, when this circumstance was duly attended to, it never proved tedious; and the patient was almost always able to get out of bed on the fourth or fifth day.

As the violence of the disease abates, the pulse becomes slower, full, soft, and equal; and I have seen a great number of cases

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leeches to the temples, and the use of cold acid drinks. Opening the temporal artery is preferable, as it combines the effects of general and local blood-letting. In the army, blood-letting was first practised in the summer of 1807, in one of the regiments of foot-guards, with much success; but it required the proofs afforded by dissection, to render that practice general; which did not happen until the year 1809. "With respect to opening the temporal artery, *it may be here added*, that this mode of blood-letting was practised by Dr Irvine, *in the summer* of 1808, with much success."

cases, in which its slowness was very remarkable during the state of convalescence, not exceeding forty strokes in a minute. The tongue also becomes clean, and this is a sure criterion of recovery. Giddiness is always the most lasting symptom; and is pretty steadily accompanied with dilated pupils, and both symptoms generally disappear together.

I have only met with four cases of relapse. In one of them, which was very tedious from the beginning, and in which dull pain in the occiput and severe giddiness were constant symptoms, I gave digitalis and calomel *. In one patient, who had been much addicted to the use of ardent spirits, and had suffered from the repeated use of mercury, after the general febrile symptoms had been removed, there appeared, for some time, a tendency to chronic mania, which, however, disappeared under the use of nauseating doses of antimonium tartarisatum. In the three cases which, at the close of the season, terminated in intermittent fever, I gave bark; and to that remedy the fever readily yielded.

III.

Correspondence between ANDREW F. RAMSAY, Esq. Assistant-Surgeon, 1st Bat 2d Regt. N. I. Bengal, *and* ADAM BURT, M. D. Superintendent Surgeon, Muttra, *respecting a Disease of the Throat of an Uncommon Description, which occurred in the Hurrianah District.*

MY DEAR SIR,

I MENTIONED in my last letter, that I had wished, for some time, to write to you concerning a complaint in the throat, which attacks our people in the Hurrianah district, but had been prevented by indisposition. As I am now somewhat better, I shall state what has come to my knowledge concerning it; and you would much oblige me by giving me your opinion on the subject.

When we were encamped at Rhotuk, in August last, I received a letter, of which the following is a copy, from Lieutenant

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* This patient got well soon afterwards, but I do not attribute his recovering to this mode of treatment.

Higgins, of the 22d regiment, who was at Ballealee, with a company:—

Dear Sir—Being assured that I shall meet your forgiveness, when the cause of this is known to you, I hesitate not a moment in relating a circumstance which has given much alarm in camp: A sepoy, two days ago apparently in high health, was found dead in his bed. No person being able to account for so sudden a death, it was attributed to the bite of a snake. Yesterday another man was seized in the following manner:—He complained that he felt a severe pain in his throat, and died in the course of a couple of hours. Last night I was called up, another sepoy being taken ill. I immediately went to him. He was able to give a distinct account of what he felt. He complained of a dreadful pricking pain in his throat, which he felt gradually swelling; and he began to feel great difficulty in breathing or speaking. He continued in this state till his voice went completely, when he lay down and died. He was not an hour and a half ill altogether, and did not survive ten minutes after his voice failed him. His eyes were fixed from the first, which he complained of. All the men were apparently in high health a few hours before, &c.

Camp, Ballealee, 8th August 1809. C. T. Higgins.

On receiving this letter, I wrote to Lieutenant Higgins, inquiring whether there were any spasms about the throat; whether the sufferers had been living or messing together; if they had been eating any thing to which they were unaccustomed; if the natives of the place were subject to such a complaint; and if any of the men had seen others affected in that way? And although I could not form any idea of the nature of the disease, I recommended him, should such a case occur again, to give an emetic immediately, and to apply a blister to the throat; and, in case of these failing, to try bleeding and opium. In answer to the above queries, I received the following answers:—" There were no spasms about the neck, mouth, or temples. No aversion to any liquid, as I gave one of the men some water a few minutes before his demise. The three unfortunate sufferers were of different ages and casts: A Brahmin, a low cast Hindoo, and a Mussulman. They were all seized at the same hour of the night. In the case of the first man, he was speechless when I saw him; and the people found him so early in the morning." " I cannot say, in respect to the two first who died, whether they eat any vegetable during the day. I am apt to think the *first did; but the* last man had not tasted a single thing the whole day previous to his death, it having been a day of some religious ceremony among the Brahmins, which forbid them tasting food. The water at Ballealee is particularly good. None of the inhabitants have the smallest idea of the complaint, and say they never heard of such a disorder; but a Hujeel, who formerly served in Hansi Fort, mentioned his having witnessed two similar cases there last year."

They moved from Ballealee immediately, and had no return of the disorder.

On the 18th August, as we were going to sit down to dinner, a Khidmutgar boy was attacked with a violent pricking pain in his throat. I saw him at the moment. Lieutenant Higgins, who was with me then, said that it had all the appearance of the former cases at the commencement. On the right side of the os hyoides, there was a considerable tension and hardness; his pulse was about 74, and natural strength. He had no fever. In fact, in every other respect, he was perfectly well. I gave him ʒß. of the sulphat of zinc, which made him vomit immediately; and I applied a blister. After the vomiting, he said the prickles had gone out of his throat. Next morning, he was perfectly well, and the tension and hardness in the throat were gone.

The next case I heard of was the following, from Captain Fernyhough at Toshaum, who was there with a company, dated October 11th;—"I had, last night, an opportunity of seeing the disorder Higgins wrote to you about. An old Syce, of the Hon. Mr Gardner's, was seized with it. When I went out to see him, his mouth was firmly closed; his eyes fixed; and though perfectly sensible, he could not utter a word. I wished to see if he could swallow, and therefore urged him to take a little water; but he could not. I put a table-spoon into his throat, which gave him much pain; but he, in consequence, threw off a little phlegm. As this appeared to give him some relief, I wished to see what effect an emetic would have; but as you had not given me any, I substituted Secunjerbee salt and warm water. When he had, with much difficulty, swallowed a little of this, the effect was almost instantaneous. I therefore continued to give him that and warm water, which enabled him to bring off a large quantity of phlegm; and he at length declared that he did not feel any more *kantas* in his throat. This morning, he complains of a pain in his breast, and headach, in consequence of the exertions he made last night. Every person here considers his escape as miraculous; and Mr G., when he saw the man, gave him over, as he said the symptoms were exactly the same as the men who died at Ballealee had. I said the man's mouth was firmly fixed, and you will wonder how I got him to take the medicine; but I should have mentioned that he had no teeth, and his jaws were, in some degree, forced open, with much pain."

On inquiry afterwards, I have found that this man had fasted for two days, and complained of a pain in his stomach.

During my absence from Buwanee, on account of illness, another case occurred in Captain Skinner's corps. A trooper was taken ill, in the same way as the others; the same sensation in his throat, and his voice had failed. My native doctor, with whom I had conversed on the subject, but who had never seen the complaint, gave a dose of white vitriol, and immediately afterwards the man was well. This man had fasted all day.

I regret that I have not had an opportunity of examining, by dissection, any of those cases which terminated fatally, as, from that, perhaps I might have formed some idea of the nature of the complaint. It seems somewhat to resemble cynanche trachealis, and very likely would present nearly the same appearance on dissection. I have myself no idea of its nature or cause. The natives of the district are never affected in that way, at least as far as I have been able to learn.

I may mention, that complaints in the throat have been very common with us, more especially among the lower class of servants. Five European officers, who have been out with us, have suffered a good deal from a pain and roughness in the throat; not continued, but coming on at intervals. These yield to blisters.

I hope you will excuse the length of this letter, which is, perhaps, drawn out too much; but, as I was unacquainted with the complaint, I was anxious to give you as full an account of it as I could; and you will very much oblige me by giving me your opinion of it.

We are so far on our way to Seetapoor, which we expect to reach about the first proximo. Our marching now is extremely pleasant; and we are daily leaving our Buwanee complaints behind us. I remain, my dear Sir, yours very sincerely,

Camp, Anaspshuhur, 14*th November* 1809. A. F. RAMSAY.

MY DEAR SIR,

WITH acknowledgment of your letter of the 14th, accept my thanks, as well as approbation. Your account of the singular affection of the trachea arteria and muscles of the jaw, which you have favoured me with, is very interesting. If you have any wish that your account of so uncommon a disease may be made generally known to the medical world, I will transmit your letters to my friend, Dr Duncan, so that it may, or may not, be inserted in the Medical and Surgical Journal, as the editors shall determine.

Further research, however, seems necessary, in order fully to ascertain the nature of the disease; and until the morbid appearances on dissection be observed, our ideas of its proximate cause can be but vague.

I cannot help observing, that the symptoms bear a very great analogy to those of a disease prevalent, about twelve or eighteen months ago, among the horses of the Company's stud, by which many very fine animals were lost. The veterinary surgeon found no remedy whatever.—Horses we know cannot vomit. From the appearances on dissection, the veterinary surgeon pronounced the disease to be similar to the croup in the human species.

The analogy of diseases of the human race with those of the brute kinds, seems entitled to more consideration, since the æra of Dr Jenner's grand discovery. I am, dear Sir, yours truly,

Cawnpore, 28th of November 1809. ADAM BURT.

MY DEAR SIR,

I HAD the great pleasure to receive your answer yesterday to my letter respecting the complaint in the throat, and I am extremely happy to find that it has met your approbation. I can certainly have no objection to its being made public, if you think it deserving of being noticed. I have only again to regret having had no opportunity of examining any of the fatal cases.

I return your answer as you desire; and the circumstance mentioned in it, respecting the complaint in the horse, is worthy of consideration. Three years ago, I believe, many horses at Merut were affected with some uncommon complaint of that kind; and many, I believe, were lost. I did not think of the occurrence before, and I cannot now ascertain any thing respecting it. Since we left the Hurrianah district, I have not found any thing like the affection, nor do the sharp pains, nor difficulty of swallowing, which were then common to many, now make their appearance. I remain, my dear Sir, yours, very truly,

A. F. RAMSAY.

Camp before Nynparah, 12th December 1809.

IV.

IV.

Singular Case of Lameness. Communicated in a Letter from Dr Osborne *of Cork.*

A. B., aged 23, was, on the 3d of June 1808, as well as ever in his life; but the next day, when marching with his regiment in Guernsey, for embarkation, was suddenly attacked with pain in his right side, so violent, that he could not stand; was shortly after brought to England, where the staff-physicians were of opinion that his liver was badly diseased. He was sent to his father in Ireland, where Drs Pigot and Drew gave it as their opinion that he could not live. On this Dr O. was sent for, who found him dreadfully reduced; his emaciation and debility excessively great; his tongue, from the manner of articulating, shewing strong threatening of paralysis; pulse 120; tongue dry, with a dirty white crust upon it. The liver, on examination, found to be sensibly enlarged, and giving the feel as if pressing a tough dough or clay. His urine, in 24 hours, did not amount to three noggins, very high-coloured, and depositing sediment between red and white. Bowels costive; affected only by medicine; appetite quite gone; his *right leg by three inches shorter than the left;* which, upon inspection, was found to be in consequence of the head of the thigh bone having slipt out of the acetabulum; and of this he could give no account, unless it happened when on board ship, whilst changing from hammock to hammock; but that he never had any sense of uneasiness or pain, either then or at any other time. From his emaciated state, fever, diminished urine, impediment of his tongue in articulation, Dr O. conceived he could not live, and that he might be cut off suddenly; but ordered the squil-soda and hydrargyrus pill; that he should drink double soda-water, or plain water; no wine; and that his diet should be light and nourishing. In about six weeks, he came to town to have a consultation with Dr Longfield, when he had the appearance of hale health in every respect, excepting the dislocation, which much surprised Dr L.; who was so particular in his examination, that he said "the head of the thigh-bone is pushed directly upwards, and here is the protuberance formed by it distinctly to be felt." As the pills that had been ordered had set his kidneys active, by the discharging of large quantities of urine, they were now dispensed with, and he was put on a course of bark. This he continued for the course of a month, and, at the end of the time, returned to Cork, with both extremities of the same length. He was stripped, and the head of the femur was found to be perfectly in the acetabulum.

This is a most extraordinary case, and can be only accounted for from an excessive degree of relaxation of the rotund and capsular ligaments. For, if the bone had been forced out accidentally, a rupture of the ligaments must have been the consequence, and of course the bone would remain out; but the contrary must have been the case; for as the constitution recovered its natural powers, so the ligaments recovered theirs, and, by gradual contraction, brought about the reduction.

V.

Case of Pleuritic Inflammation, with Appearances on Dissection. By John Maule, Member of the Royal College of Surgeons in London, and Assistant-Surgeon Leicestershire Militia.

JAN. 30th 1810.—JOHN RILEY, aged 21, private of the Leicestershire Militia, was on the sick-list about a fortnight since, and complained of pain in the head, with giddiness; nausea, and rather frequent pulse. He was relieved by an emetic, and a purge with calomel and sulphate of magnesia. He returned in a few days to his duty, but says he felt weak and faint at times. Complains to-day of some degree of pain about the epigastric region; has frequent pulse, and rather dry tongue; his bowels are open.

31st.—Is rather worse to-day; has short dry cough; a pulse very frequent and thin; a dry brown tongue; is at times slightly delirious; skin not hot, but rather dry.

Feb. 1st.—Pulse remarkably frequent, about 140; tongue very dry, and covered with black sordes; has œdematous legs, with swelling and sense of fluctuation; continues delirious, but does not appear to be in pain.

2d.—Pulse scarcely perceptible; body covered with petechiæ, particularly the scrotum; is sinking fast.

Six o'clock p. m.—Appears greatly oppressed in his breathing; abdomen a good deal swelled, and very tense.

3d.—Died about half past four o'clock this morning.

Appearances on Dissection.

On opening this body, there was every appearance of recent active inflammation; the pericardium was quite distended with water; the lungs could not be perceived, for a thick covering of coagulable lymph completely adhered everywhere on both sides of the chest to the pleura costalis; the liver was larger and paler than natural, and the gall-bladder was full of a thin fluid resembling serum; the stomach and intestines were distended with air, and the latter were covered with patches, of different sizes, of a tuberculous appearance; there was an inflamed spot, of about the size of a crown-piece, on the peritonæum, about the lower and anterior part of the umbilical region, and a considerable quantity of fluid in the cavity of the abdomen. Since his death, I have understood that he drank a large quantity of cold water before his admission into the hospital. He never complained of pain in the chest, nor of oppression, till a short time before his death. The body was opened twelve hours after his decease.

Queries.

1*st*, Does adhesion of the lungs to the pleura ever take place without previous active inflammation?

2*d*, Does active inflammation ever exist without pain?

3*d*, May the blood in some kinds of fever undergo any chemical change; or may the action of fever dispose it to a separation of its constituent parts while in circulation?

4*th*, In this case, what was the probable cause of the appearances found on dissection?

VI.

Case of Spurious Aneurism. By William Young, M. D.

> "From all that we have seen, we have reason to be jealous of any doctrine, which leads to a laxity of practice, in respect of tying even the smaller arteries; or which holds out any such apology, as the contraction of arteries, or the formation of clots."—J. Bell.

A stout-looking Irishman, of 30 years of age, a labourer, consulted me about a swelling at the bend of his arm, *which had* arisen after blood-letting. From the violent pulsation,

tion, which was evident even at the distance of two or three yards, I instantly pronounced it a case of aneurism; and, on hearing his own account of the operation (which was performed two days before, by a brother-labourer), not a shadow of doubt, concerning its nature, remained in my mind. He said that the blood sprang with immense force; that the stream was larger than a crow-quill,—that the colour was more bright than that of blood in general,—and that much difficulty was found in stopping the hæmorrhage; so much so, that a strong strap of cloth required to be so tightly applied, as to deprive the fore-arm of sensation. Upon undoing this ligature, the external wound appeared cicatrized. The cicatrix was a quarter of an inch long, and its direction, with regard to the course of the artery, was all but exactly transverse. The pulse, at the wrist, was perceptible, but greatly smaller than that at the other. The tumor stretched from about two inches below the cicatrix, to half way up the arm, and was, to a certain degree, divided into a larger and smaller one, apparently by the tendon of the biceps

Trusting that the delay of any operation for a day or two, (seeing no febrile symptom had occurred) could be productive of little danger, and gave time for the formation of Jones's "external clots," his "internal clots," his "adhesive inflammation," and his "effusion of lymph," I firmly applied a bandage, bled the patient from the left arm, to the extent of twenty ounces, and ordered him a cathartic. Next day I found that the arm was larger, notwithstanding the firm bandaging; that the tumefaction had gone farther up, and that, here and there, some livid patches were becoming perceptible. He complained also of headach and sickness, and the pulse had mounted from natural to 110. Although perfectly satisfied in my own mind that the ligature was necessary, yet I determined to devote another day to the formation of clots; at the same time dropping hints to the friends of what probably might occur. The bleeding and purging were repeated. But on the following morning, I was seriously alarmed when I observed so much lividity, and to what extent the swelling had gone; for now the arm, from the axilla to below the bend, was equally enlarged, and exhibited all over the same pulsatory motion, though not quite so distinct as the day before. Any further delay appeared highly dangerous, I therefore resolved, that as soon as possible the operation should be performed, and mentioned, in direct terms, my intention to the friends, who then agreed. But, on returning with instruments and assistants, I was informed that they had changed their mind, and that they expected the arm would suppurate, and be well in a day or two. I afterwards found out that they had sent for a quack, who assured them he would cure it in a few days. I called in the course of two days, to satisfy my own curiosity, and found the man very feverish, with a large poultice upon his arm, which he refused to take off, but told me the skin was more discoloured, and that the swelling and pain were greater, both of which underwent a momentary increase, he thought, on coughing, which troubled him a good deal. On looking at the cloth, which kept the poultice applied, the pulsation was nearly as evident as when the arm was bare; and œdema, which I could hardly say I had observed before, was now considerable all along the fore-arm and hand. Thus the case went on for a fortnight, without any change in the application, and without any favourable symptom occurring; on the contrary, every thing looked worse and worse, till the doctor himself (as the patient styled him) became terrified, and persuaded the friends to send for another self-created physician; who, apparently knowing something about arteries, is said to have expressed his doubts about the case, and to have talked about cutting into the swelling. Nothing, however, was done, except that the poultice was changed for a green vegetable one. About six weeks after I first saw him I called again, when he felt more at ease; the swelling was not much diminished, but the pulsation considerably less violent, and some of the livid patches were beginning to reassume their natural colour. In a day or two the pulsation ceased, the swelling thereafter rapidly diminished, and in the course of a fortnight I saw the arm perfectly well.

That the late work of Dr Jones has, to a certain degree, corrected our views on the subject of wounded arteries, is, I believe, pretty universally admitted; in perusing it, however, I should conceive it necessary, in an eminent degree, to keep in mind the prefixed aphorism of John Bell. Although, by his experiments, he pretends to prove to us, that no inconvenience arises from tearing across the carotid artery; and that you may, with as little dread, longitudinally puncture an artery as a vein, yet he admits, that transverse or oblique approaching to transverse slits, heal with difficulty, or not at all; and, "that in every case in which it can be done, it is best to tie the artery above and below the wounded part, and divide it completely between the ligatures." Mr Charles Bell counts much upon the clean cut of a knife, and seems always, in such cases, to hold forward, whether the cut be longitudinal or transverse, that no hesitation should be entertained with regard to the necessity of *using* the ligature. "It is not always," says Mr John Bell, "*that the* surgeon has his mind so settled concerning the tying of these great arteries, as to do this operation on thevery moment of the wound; and yet he may as well do so: for whether he determine by reasoning, that it is safe or dangerous to tie the great artery of the limb, still the circumstances of the wound are the same; and the artery, whether it be the great artery, or some secondary branch, whether punctured or fairly cut across, is lost to that limb; and since the wound itself of a great artery cannot heal, its cavity must be closed."

This assertion of Mr Bell is, like many more of his, rather unqualified; for it is certain, beyond all disputation, that small punctures, and longitudinal punctures, even of considerable extent, have again and again closed up. But in a case of transverse puncture, Jones himself admits, that a circular opening is produced, that the artery will continue to pour forth its blood, and, if prevented from bleeding externally, that great is the probability spurious aneurism will form. In the most of his experiments, however, when outward bleeding was prevented, a small thrombus, which, in the course of two or three days disappeared, was the most alarming symptom: notwithstanding which, I am much inclined to think that (in the human subject at least) aneurism more readily occurs; for I myself have observed more than half a dozen different instances, in consequence of bleeding from the temporal artery, which formed even under compress and bandage. But waving all such extraneous discussion.—When a large spurious aneurism has formed, when the integuments have become livid, and fever considerable, can there exist any difference of opinion with regard to the practice proper to be pursued?—even under the most advantageous treatment, can reasonable hopes of a natural cure be entertained? In the above case were exhibited the most alarming symptoms of an aneurism, in consequence of a transversely wounded artery; which symptoms gradually increased in violence for more than a month's time, and yet suddenly disappeared. It seems to me to be one of those cases which we ought to know has occurred, but which certainly ought not in the least to influence our practice. Hence I would conclude with Mr John Bell, that we have reason to be jealous of any such doctrine as may lead to a laxity of practice in respect of tying even the smaller arteries.

Neilston, near Glasgow, April 1810.

VII.

A Scirrhous Gland, weighing Four Pounds and a Half, extirpated from the Scrotum on the left side, by Messrs **Robertson** *and* **Stuart**, Surgeons, *with the advice of* Dr **Wilson**, Kelso.

J. Y. æt. 34, a tailor by occupation, of a slender make of body, and rather of a sallow complexion, about the latter end of the year 1803, after recovering from a complaint in his bowels, which his medical attendant called an inflammation, perceived a small indurated tumor in the left groin; it was without pain, and remained for several years in that state, increasing in an almost imperceptible manner, till it acquired the size of a turkey's egg, when it descended gradually along the course of the spermatic cord, down to the scrotum. It then began to annoy him in walking, on which account he applied to the Dispensary for advice. Upon the Faculty examining the tumor, they were in doubts what the contents might be. The testicle was distinctly felt, high up at the posterior part of the tumor. Between the scrotum and it, there seemed to be interposed a puffy substance of a considerable thickness. The body of the tumor felt extremely hard and weighty, and no pressure, however strongly applied, created the least pain or uneasiness. He could, at pleasure, push it up from the scrotum, below the integuments of the abdomen, as high as the top of the os ilium. The only disease of this part it seemed to resemble, was an encysted dropsy of the spermatic cord, although no fluctuation could be perceived. It was suggested to him, that an operation was the only chance to relieve him of his complaint; but this he declined, as the tumor gave him no pain. He was therefore desired to wear a suspensary bandage, when he left the dispensary. After having been absent from the dispensary for six months, he returned on the 2d of February 1810, with a resolution to submit to an operation, as the tumor was now become so bulky and weighty, that it very much impeded his walking. Upon examining it again, the rapid progress that it had made in growth, from the first examination, was astonishing. The penis was now almost obliterated, and very similar to what happens in the advanced state of the hydrocele in the tunica vaginalis. To ascertain what the nature of the tumor was, before commencing the operation, an incision was made in the most depending part, through the skin and cellular substance, down to the body of the tumor, and a trocar was pushed into it, when it was discovered to be a solid substance. The necessary apparatus for the operation being got ready, the patient was placed on a table of a convenient height, with his legs hanging over it, and an assistant placed at each side, to support him. The tumor was gently supported with the one hand of the operator, and a straight incision was made with the other, from the ring of the abdominal muscles to the top of the tumor, which was about two inches in length. Then two lateral incisions were made from this to the inferior part of the tumor, taking out of the scrotum a piece of an oval form, of such a size as was thought sufficient to allow the extraction of the tumor. On making the incisions, there protruded out of the wound a clear mucilaginous membrane, of a considerable thickness, resembling the allantois of the cow, in which the tumor was enveloped, and this was attached to the groin. When the tumor was dissected out of the scrotum, it was suspended from this place by a neck, like the testicles in their coats by the spermatic cord. This was cautiously divided, conceiving that the arteries, by which the tumor was nourished, were likely to pass along it, but none at this time were observed. When the tumor, and as much of the sac as could be got away, were removed, the testicle was found to be quite in a sound state. The lips of the wound were now brought together, and retained by stitches, at proper distances, along the whole course of it, beginning at the inferior part, in order to prevent the testicle from falling out. The sore was covered with a pledget, spread with emollient ointment, and the whole supported by a suspensary bandage. An anodyne draught was administered, and he was laid into bed. Three small arteries were taken up in the course of the operation, and one, which escaped notice, began to bleed about an hour after he was laid in bed, (which shows it to be a matter of the greatest importance to make particular search and secure every vessel after an operation). This brought on a faintishness, and alarmed the attendants, and caused them to send immediately for the gentlemen who were present at the operation. The blood seemed to flow from the upper parts of the wound, near the abdomen. The stitches at this place were cut open, and the clotted blood spunged out of the wound, when a small artery was discovered and secured. This part was left open, and a copious discharge of sanious matter, of a very offensive smell, then took place. A fermenting poultice, mixed up with a portion of bark, was applied to it, and renewed twice in the day. He was directed to take half a dram of the powder, and a wine glassful of the decoction of bark, acidulated with the sulphuric acid, every two hours when awake, and an anodyne draught at bed-time. The bark disagreed with his stomach, and brought on a laxity of his bowels. To obviate this, he was ordered six drops of the tinctura opii in each dose, which had the desired effect. By perseverance in the use of these means, and of a moderate portion of wine, the discharge began to diminish, and the matter became more purulent. Nothing farther of an untoward nature happened in the course of the cure, except at two or three different periods, his becoming hot and restless, with a violent pain in his head. This was always relieved by a hæmorrhagy from the nostril, and at last left him altogether. The discharge from the wound gradually diminished, when the fermenting poultices were laid aside. The lips of the wound were strapped together, by means of adhesive plaster, twice in the day. The wound was so far healed up, in the course of a month after the operation, that any further medical attendance was unnecessary. He left the town and went to his residence in the country. In the course of another fortnight, the wound was so completely healed, that he could walk about and follow his employment, free from all complaints, weakness excepted. Before the month of June he quite recovered his strength, became corpulent, and at present enjoys a better state of health, than he had done ever since the commencement of his complaint.

On examination, the tumor, with a portion of the sac, weighed four pounds and a half avoirdupois. The sac originated in the groin, to which it was attached by a neck. The tumor was entirely enveloped in this, and connected with it, over the whole surface, by means of slender filaments. On dividing the tumor through the centre, it was found to be of a glandular structure, quite in a scirrhous state From the history the patient gave of its origin and progress, there could be no doubts entertained of its being one of the inguinal glands that had become diseased, and, by its gravity, had gradually descended along the course of the spermatic cord, down to the scrotum, where, by its friction and pressure, it adhered in all directions. The above case is undoubtedly a rare occurrence, and perhaps few, if any instances of such are on record; none of the gentlemen present at the operation ever recollected to have seen, or read, in any surgical work, of any thing similar. This case, therefore, in indurated tumors of the scrotum of a doubtful nature, may be held in view. The rapidity of the growth of the tumor in the course of a few months previous to the operation, was rather unaccountable; *unless the* filaments which connected the sac to it contributed to produce that effect. There were only four blood-vessels observed during the operation, and none of them larger than a knitting needle of a moderate size.

VIII.

A Case of Anthrax: successfully treated. By DAVID HOSACK, M. D. *Professor of Materia Medica and Botany, in Columbia College. Communicated to* GEORGE PEARSON, M. D. F. R. S. *by the Author.*

ALTHOUGH the disease, which is the subject of the following case, was well known to the ancients[*], and has been well described by modern writers[†], and is of so frequent occurrence as to fall under the notice of most practitioners; it is no less true, that there is at this day great difference of opinion as to the mode of treating it. It will be recollected, that, but a few years since, it was the subject of a public controversy in this city; and in Europe, surgeons are no less divided in their treatment of this disease, than they are in this country.

In 1794 I attended a case of carbuncle, in consultation with two of our eldest and most respectable practitioners. The inflammation exhibited by the tumor appeared so active, that we unanimously agreed on the application of lead-water; poultices of bread and milk; an abstemious diet, with the internal use of depleting remedies. Under this treatment, the febrile symptoms increased; the tumor extended; sphacelus ensued; and, in a few days, terminated in the death of the patient. The appearances, progress, and termination of this case, led me to the resolution to employ a very different treatment in those cases which might afterwards fall under my notice. Since that period, it has been my practice to support the strength of my patient by a nutritious and stimulant diet, and the free use of bark and wine;

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[*] See Galen, Celsus, Fabricius.

[†] See Wiseman, Bromfield, Kirkland, David, Prix de L'Academie Royale de Chirurgie, tom. iv.
Pouteau, Œuvres posthumes. Pearson's Surgery.—Cooper's Surgery.

at the same time preserving the tone and action of the part itself, by frequently washing the tumor with spirits or brandy, and by the constant application of a poultice composed of *bark and yeast*. Finding these remedies successful in many instances which have fallen under my care, I inclose to you the following case, in which this practice was pursued, under the most unpromising circumstances, and therefore is better calculated to establish the principles upon which the cure of this disease is to be conducted; especially when it occurs in advanced life, and is preceded by, or accompanied with, a scorbutic or vitiated habit of body, as, I believe, is most usually the case. I am, with great regard and respect, yours,

New-York, July 31, 1809. DAVID HOSACK.

On the 5th March, 1808, I was called to Elizabeth-Town, in New-Jersey, to see Mr John Hartshorne, aged 84, then on a visit to the family of Mr Thomas Eddy.

He was extremely debilitated, and suffering much distress, from a tumor on the small of the back, which had been of several days continuance.

Upon inquiring into the history of the case, I was informed that the tumor, in the first instance, appeared like a common boil; but having been preceded by several smaller ones, and an eruption on the skin, it excited very little attention on the part of his friends. It, however, very soon was attended with an acute burning pain, and began to spread, the adjacent part assuming a deep red or purple colour. The family physician was called, who, at that time, was not acquainted with the peculiar character of this disease, having never met with it before in his practice, and therefore very naturally treated it as a common phlegmon; applying the common cataplasm of bread and milk, for the purpose of inducing suppuration, together with the internal use of those remedies that are usually prescribed for the removal of simple inflammatory tumors.

The inflammation continued to extend, attended with severe pain in the part, fever, restlessness, loss of sleep, and occasional delirium. In this state I found him. The tumor appeared about six inches in diameter; of a dark purple, livid colour; extremely painful and sensible to the touch; in the centre of the swelling the colour was still darker, and was attended with a dischage of a thin acrid humour, as is usual in erysipelatous inflammation, altogether exhibiting the symptoms of approaching sphacelus: his pulses were small and frequent; his skin preternaturally heated, and attended with a sense of itching over the *whole surface* of the body; his tongue was moist, but foul: his bowels were costive, except when relieved by injections, which were occasionally administered; his urine was sparing in quantity, and high-coloured.

Under these circumstances of a typhoid state of fever, attended with a gangrenous appearance of the tumor, we advised the part affected to be washed with a strong solution of soap and water, rendered more stimulant by the addition of a small quantity of rum or brandy, and afterwards a cataplasm of bark and yeast to be applied over the whole surface of the tumor; the same to be renewed every four hours, making use of fresh yeast at each application: a wine-glassful of a decoction of bark and Virginia snake-root, was also directed to be taken every two hours, together with the free use of porter, panado made strong with wine, and soup, as his nourishments.

As he suffered a great deal of pain, he was also directed to take occasionally, throughout the day, about twenty-five drops of laudanum, and at night an anodyne draught, if otherwise he was unable to sleep. These directions were faithfully complied with.

Upon visiting him on the 7th, his symptoms were much changed for the better. The appearance of the tumor was more healthy, and assumed a brighter colour, but was somewhat increased in size, and in the extent of the inflammation; his pulses were more full, and less frequent; his strength was also improved: he suffered less pain, and discovered a greater inclination for nourishment than he had before done. As he was fond of eggs and oysters, they were also allowed him. All the other remedies were directed to be continued.

I did not see him again until the 12th; in the mean time the bark and yeast poultice had been steadily continued, with his decoction of snake-root, a generous diet, the liberal use of wine, and anodynes whenever he suffered much pain, or was deprived of his rest. At this time the tumor began to discharge, at different parts of its surface, a very healthy[*] pus; the apertures were small, but numerous, resembling the cells of a sponge, or honeycomb. It continued thus to discharge for several days.

We did not think it necessary to enlarge the openings, through which the matter was evacuated, as directed by Mr Kirkland,

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[*] I am not a little surprised at the observation of John Pearson (see Principles of Surgery) and the Editors of the Edinburgh Practice of Physic and Surgery, when they remark, that " an Anthrax never evacuates a laudable pus." Wiseman also observes, " that he never saw a true carbuncle suppurate." On the contrary, I am inclined to believe that the wound never heals without this *change in the quality of* the discharge.

David*, Mr Cooper †, and the Editors of the Edinburgh Practice of Physic and Surgery. In cases where the ulceration may be of greater extent than in the present instance, and the quantity of matter very great, this practice may be adviseable and necessary. About the 22d, we directed the poultice to be omitted, and the wound to be dressed with simple cerate. Within twenty-four hours after this change in the application, the quality of the discharge was sensibly altered. Instead of a healthy pus, a thin sanies, as in the beginning of the disease, was again poured out. The complexion of the tumor also assumed a darker appearance; and his friends again became alarmed for his safety.

Finding these changes, we again advised the tumor and neighbouring parts to be bathed with brandy, and the poultice of bark and yeast to be renewed.

From this time the wound recovered its healthy aspect, and continued to heal, without an unpleasant symptom. When the discharge totally ceased, and the wound had become cicatrized, a light compress of linen, wet with rum or brandy, was directed to be applied to the yet tender surface of the part affected. As he still continued to complain of an itching over the whole surface of the body, we put him on the use of the decoction of sarsaparilla and guaiac.

On the 7th April he was discharged cured, and returned to his family, in Monmouth.

If it were necessary, I could here add the history of another very formidable instance of this disease, as it occurred in the family of the British Consul, Col. Barclay; in which precisely the same treatment was pursued, and with the same happy result.

IX.

Case of Carditis, with the Appearances on Dissection.

A. B. on the 21st of April, was delivered of a fine healthy child. The labour was natural and easy; nothing uncommon occurred. On the following morning, I found her as well as I wished.

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[*] *See* a very valuable memoir on abscess, by this writer, in the Memoires de l'Acad. de Chir. tom. iv.

[†] *See First Lines* of the Practice of Surgery.

wished. In the course of the same day, however, whilst sitting up in bed, for the purpose of putting the child to the breast, she was suddenly seized with oppressive respiration, and complained of severe pain in the loins, particularly referable to the right side. When I saw her in the evening, I found her in a semi-recumbent posture; her breathing was difficult, short and oppressed; great anxiety pourtrayed in the countenance; pulse 130, small but regular; skin dry, but of a moderate temperature; tongue white and moist; severe pain in the loins. On the following day, the pain in the loins went off, and she now complained of severe oppression about the præcordia; breathing short and oppressed, with severe pain at the back of the neck, and between the shoulders; occasional vomiting; pulse quick but regular. Blisters were applied, and a cathartic administered; blood was also taken away; but it exhibited no marks of inflammatory action, such as the buffy coat, or a firm, contracted, or cupped-like crassamentum. On the third day there was a considerable remission of symptoms, which lasted, however, only for a short time. They again returned with equal violence, and continued for two days, without any mitigation. On the sixth day, the pains entirely went away; her extremities became cold, and her whole body was bedewed with a cold clammy perspiration; pulse fluttering, and too quick to be counted; respiration frequent, but comparatively easy, except that at intervals there was to be observed a convulsive catch, as it were, somewhat approaching to singultus; there was a superabundant secretion of mucus in the bronchiæ. In this state I did not expect her to remain many hours; but during the night she had some sleep, which she had not experienced since the attack; and on awaking appeared relieved, her countenance having assumed more of the natural cast: pulse regular, about 100; breathing easy; complaning of no pain; stools frequent, and passed away involuntarily, as did her urine. She continued much in this state for three days, when her tongue became suddenly enlarged to thrice its natural size, so that it could not be kept within the teeth, and as hard to the touch as a board, and dry, which it had not been during the complaint. On the following day, which was the tenth from the attack, she died. On the following morning I examined the body.

On the raising the sternum, there was observed, on the external part of the pericardium, a large patch of coagulable lymph, about four inches in circumference. On cutting into the pericardium, the cavity was found to contain three ounces, or more, of a serous fluid; the heart was enveloped in a covering of coagulable lymph, about the eighth of an inch in thickness. The whole interior surface of the pericardium was also coated in the same way, and adhered strongly to the heart at its apex. This coat of lymph was easily separable, as it did not appear at all to adhere, except when the pericardium was attached to the heart. That portion of the left lung, which passes down by the pericardium, adhered to it through the medium of effused lymph; the lungs were sound, both on the right and left side; there were no adhesions with the pleura, in any parts of the chest, except at the anterior part of the pericardium, which was attached to the under surface of the sternum, and cartilages of the ribs over it. None of the abdominal viscera were in the least diseased; the uterus was about the size of a small melon, and perfectly healthy.

London, August 20, 1810.

X.

Observations, in Reply to B. G. B. on the Treatment of the Sick returned from Corunna [*]. *Communicated in a Letter to* Dr DUNCAN, *jun. from* RICHARD HOOPER, Esq. Member of the Royal College of Surgeons, late Assistant-Surgeon at Old Cumberland and Mill-Bay Hospital, &c [†].

THROUGH the kindness of a friend, I was yesterday favoured with the receipt of a few extracts from the Observations of your correspondent B. G. B. on the paper you honoured by inserting in your Journal for October last. The liberal opinion he has been pleased to express of me, in the introduction to his Observations, demands my grateful acknowledgments; and although I may walk in the humble path of my profession, I hope to be excused, if I do not entirely concur with the opinions of a gentleman, who has probably searched the mysterious labyrinths of disease for a much longer period, and with a much nicer discrimination than myself. That I feel interested for an improvement in the practice of medicine, the humble effort which gave rise to those Observations, and to the present reply, will, I hope, be received as a testimony; and that I am anxious for the health, preservation, and welfare of our brave and excellent soldiers, must, I think, be apparent to every one, as with them I have one common fate. To turn, however, to the extracts before me, the case of Mr Williams is selected as that to which the Observations are particularly directed; it was noticed by me as one including all the symptoms of the fever, and those, too, of the *severest* kind. With regard to the large quantity and persevering use of calomel in this case, I must observe, it was entirely his own request, and that he refused the use of other medicines; so strongly was he possessed with the idea, that, of itself, it was the best, not to say the only remedy in fever; although, from the commencement of the disease, he asserted, what eventually proved too true, that it would terminate his existence. However strongly the imagination may paint the features in this case, as those of phrenitis on the mind of the author of the Observations, I cannot say the reflection of them conveys the same resemblance to mine. That painful sensation upon the admission of light to the eyes, and excessive headach, and upon which no small stress is laid in the Observations, may exist without inflammation of the brain. I have no hesitation in saying, and I believe it will generally be found in diseases of a bilious nature, that every organ and viscus is deranged during the existence of fever; and that one organ or viscus should suffer more at one time than at another, according to the nature of the fever, is an opinion very generally received; yet I much doubt if there be any practitioner hardy enough to assert, that every viscus is in a state of inflammation. Situated as I now am, in a camp, the seat of war, and almost constant alarm, where some of the first comforts of life are but scantily to be found, it cannot be supposed I enjoy the superior luxury of reading and consulting authors. Books, writings, and papers, have been entirely unknown to me for the last twelve-months. The carriage of these has been obliged to give way to the first necessaries of life. Should I therefore commit any error in the subsequent part of this reply, I trust your intelligent correspondent will have the candour not to attribute it to any but its real cause—the failure of memory. Since this gentleman is pleased to remark more than once, that the symptoms were, or bore a strong analogy to those of phrenitis, I must remind him this was only one of many cases of the same nature; though the symptoms, as already observed, were of an aggravated kind. The dissections, which are added to that paper, were conducted with great care, those of the brain particularly so; not in the usual manner of this country (England, I mean), by *sawing* through the cranium, which generally injures the dura mater and brain; but according to the method of eminent French surgeons, who *break* the cranium with a *hammer*; which, unless awkwardly managed, presents the dura mater, pia mater, and brain, perfect and uninjured. I was the more particular in this part of the dissections, as I wished to ascertain the fact of what had lately been started on the subject by Dr Clutterbuck. By referring your correspondent to those dissections, I think he will find only two cases where *even congestion* of the vessels of the brain is recorded; and for his more particular information, I can assure him it was some time before the medical gentlemen present could agree to consider those as such. With the whole of those dissections before his eyes would any one suppose a disease, caught during an attendance on similar cases, should so far differ from them as to deserve the distinct name of phrenitis. Nay, more, I cannot conceive that the symptoms generally tend to indicate this as a case of phrenitis, or acute inflammation of the brain. At the time my lamented friend ceased to exist, my own health was giving way, and in a short time after I was obliged to relinquish my duty altogether. Struck with horror at the appearance his corpse presented, I could not remain a moment to contemplate the change, much less stand by to inspect the ravages disease had made in an esteemed and intelligent companion; nor should I ever have regretted the loss, but for the purpose of satisfying the author of the Observations on his case. During the period our army was encamped in the provinces of Estremadura and Alentejo, I had the opportunity of satisfying myself upon this point, if I were not sufficiently so before. Here, too, I found that the effects of fever were more apparent in the abdominal and thoracic viscera than in any other part of the body; indeed, *in no one instance of the numerous cases which I examined, was there the slightest injury of the brain or its membranes; and yet some of these had*, previous to death, *symptoms strongly resembling those of apoplexy*. English, French, and Italian practitioners, particularly the latter, who have paid attention to the examination of cases dying of fever, all agree in this, that its effects are to be found principally in the abdominal, rarely in the thoracic viscera; whilst not a trace is observable in the brain or its investing membranes. Having said this much in objection to the considering this as a case of phrenitis, I shall proceed to state my opinion as to its real nature, and make a few remarks as to the treatment which appears to have met with the disapprobation of B. G. B.

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[*] See Journal, Vol. vi. p. 167.

[†] See Journal, Vol. v. p. 388.

The disease commences with pain in the head, and is soon connected with pain in the eyes also; symptoms not peculiar to phrenitis alone, but equally so to typhus gravior. To remove this pain, which Mr Williams thought was produced by disorder in the stomach and bowels, he had recourse to the usual dose of his favourite medicine; it having no effect, is repeated, but with no better success. The stomach and bowels ceasing to perform their usual functions, nature seeks relief by throwing up the contents of the stomach; whether the giving an emetic at this period be good or bad practice, is not for me to determine; but, for the entire removal of any irritating matter which might remain, the action of an emetic on the stomach was not unlikely to answer, even where nature had failed; and it will be observed, too, that after the use of the emetic, the stomach remained tranquil. Still keeping in view what he considered to be the cause of his illness, he repeats the calomel; but, in the afternoon, upon the taking of a little tea, his stomach again becomes irritable, and discharges its contents, which were of a bilious nature. When the stomach is become so irritable, that purgatives cannot be given with the best hopes of relieving the bowels, but are likely to keep up the irritation, I believe it to be a common and frequently successful practice among medical men, to give opium combined with calomel; and because this is given, thrown up, and repeated, your correspondent uses a language so strongly criminating this practice, that were he to study days, weeks, and years, he could not find in his own tongue words so forcibly expressive—et inde omnia deteriora ibant usque ad mortem—the correctness of which I am not only far from acknowledging, but a little farther we have the corroborating testimony of the gentleman himself in my favour, where he says, "*for the first two or three days, this gentleman* (Mr Williams) *principally managed himself, and in* WHICH TIME THE GREATEST OPPORTUNITY OF DOING GOOD *was lost*;" so that if this strong Latin passage must be introduced, it ought to have followed the sentence just cited. That the irritable state of the stomach, pain in the eyes, headach, &c. were kept up by the quantity of bile poured into the stomach, and not by inflammation of either of those organs, I have no doubt; and would ask any person of a bilious habit if he has not experienced the same, though, perhaps, not in so severe a degree; but that the *cause* of this excessive secretion of bile originated in inflammation of the gall-bladder, or liver, I am by no means of opinion; for if my memory serves me, there is but one case of affection of the liver, and this was simply induration of that viscus. In my subsequent examinations, too, the liver was *very rarely* disorganized or affected, either in fever or dysentery. Upon an attentive perusal of the case, I think it will be found, that the symptoms were those of typhus gravior or icterodes, and that those of inflammation, either of the brain or stomach, were generally wanting. The author of the Observations appears to me to be peculiarly fond of finding inflammation as the cause of the symptoms, and in general to take what I conceive to be the *effect* as the *cause*. In his fondness for inflammation, he loses sight of the very symptoms of inflammation, at least where he says—"with this state of violent fever, and very probably *inflammation of the stomach* as well as brain, *from the continued vomiting*," &c. and from the *single* symptom of vomiting, and in the absence of EVERY *other* symptom, he is pleased to say, the stomach was probably inflamed too. Here I think he betrays too great an anxiety to discover inflammation as the cause of fever. Though I have myself observed, that the pulse was more like an inflammatory than a debilitated pulse, yet I did not conceive that it pointed to inflammation of any organ or viscus in particular; to me it appears that it would be much better to say, the system at large *participates* in the nature of the disease (fever) than to attribute the *cause* to any particular organ. How far bleeding would have succeeded in this case, must now remain mere matter of opinion; but allowing it might have proved unsuccessful, that it would not have been adopted by the generality of medical men, the gentleman seems fully aware, and may be considered as offering an apology for the omission in the present instance, where he says— "Until medical men, in general, are less alarmed about debility, I shall despair of ever seeing a rational treatment of fever or inflammation," &c. Whilst I was with that part of the army hospital which was at Estumos, a case occurred which will go a great way with me against the idea of inflammation of the brain in fever. The man was a private in the 31st regiment, or Young Buffs; his first symptoms were those of delirium, which soon became *ferocious*, with a degree of *horror* expressed in his countenance. These symptoms were considered as so strongly indicative of phrenitis, that the most active antiphlogistic treatment was had recourse to. Here the lancet was not spared; but on the third day the man died; his nose, fingers, and toes being perfectly livid. Here was no inflammation of the brain or its membranes to be found; the man was seen as a singular case by almost all the medical gentlemen doing duty at the St Francis's Convent. By giving calomel, as I did, it is observed, that I am desirous of discovering something like a *specific* for fever, *to the very great neglect of obtaining evacuations*. I cannot say my vanity ever carried me so far as to induce me to believe I should be the *discoverer* of a *specific* for fever, after seeing so many, and such eminent men fail, and even disagree as to its *nature and treatment*. To the charge of neglecting evacuations, I must reply; and think, if B. G. B. has read my paper with any attention, he will be disposed to do me the justice of withdrawing it altogether. He will find in my detail, that calomel first purged, afterwards kept the bowels lax, and the *secretion of saliva increased;* that antimonials and the cold affusion were extensively but unsuccessfully tried, to *induce perspiration*; that emetics had been given at one period, and a reason assigned for their discontinuance at another: and what more would this gentleman consider as an useful evacuant but the lancet; which even now wants a more general sanction before its use is likely to be carried to any extent. To determine whose was the most successful plan of treating the fever from the number of deaths recorded at each hospital, would be as improper as it is impossible, as the sick were admitted in all the stages of their diseases, and one hospital might receive a greater proportion of hopeless cases than another; and of old Cumberland I may observe, it laboured under one of the greatest disadvantages—want of ventilation. The gentlemen, whose names are mentioned as having charge of hospitals, are all of the most respectable professional abilities; and, if I may be permitted to say it, are deserving the thanks of their country, for the zeal, anxiety and care, with which they discharged a most painful, laborious, and harassing duty, in doing which the health of nearly every individual was more or less impaired. The treatment of fever, as now generally adopted by medical men in the army, is neither the stimulating system, nor that recommended by Dr Sangrado to his pupil Gil Blas, but is the generally successful one of Dr Hamilton—at least the liberal use of purgatives—in which light calomel must be considered, when given in large or moderate doses. Towards the conclusion of my paper, in your Journal for October last, I stated my opinion, that in fever the capillary vessels were, as Bichât says of them in inflammation, in a state of distention; and not having found any decisive advantage from the affusion of cold water, I hinted that a longer continued application of it might be attended with better success; since which time I have, in conversation with medical men, been informed of two or three cases tending to corroborate this opinion: they were of men in the height of delirium from fever, plunging into water, and remaining there until they were nearly drowned. When rescued from this perilous situation, and conveyed home, not a symptom of the fever recurred. A similar circumstance is likewise to be found in Aubrey de la Motray's Travels: a physician at Smyrna plunges himself into the water, is nearly drowned, but rescued, and recovers. Another case, I believe, is recorded in Dr Rees's Cyclopedia; and to a similar occurrence Dr Jackson acknowledges himself indebted, as leading to his practice of the cold affusion or ablution. That practice which I have recorded, has, I hope, been done so with too much candour and honour, ever again to be attacked, with any other views than those for which it was designed—the good of others; and whilst I am very willing to allow that a much better practice may be adopted, I hope to have the support of your intelligent correspondent, when I say, I think it better than the stimulating system. It might now become me to apologize for having troubled you so much; but your excellent Journal is conducted on such avowed liberal terms, that I feel an assurance you will devote a sufficient portion of it to this reply to the Observations of B. G. B. of whom I must now take my leave, by assuring him, that I am obliged for every information his Observations contain; that I shall not fail of trying the use of the lancet whenever an opportunity occurs; and that, however we may disagree as to the name, we may probably eventually agree as to the treatment of it.

Camp near Celerico, August 6th 1810.

MEDICAL EXTRACTS, No. III.

JACKSON's Account of the Empire of Marocco.

THE work which will furnish us with medical extracts for the present number, is evidently the production of a gentleman of great observation, and considerable acquirements. His long residence in the empire which he describes, and his intimate acquaintance with the language, distinguish him conspicuously from the herd of modern travellers, who hurry across countries, of which they knew little more than the name, with their memorandum-book in their hand, and their dictionary in their pocket. They set out resolved to make a book, whether they find any materials worthy of communication or not; Mr Jackson has written a book, because he has much to communicate. It is upon commercial subjects that his information is most complete; and although we do not mean to reproach our author for his want of knowledge of natural history, we cannot avoid expressing our regret, that he did not possess, at least, a slight acquaintance with the principles of the science, along with his natural powers and great opportunities. Even with all his disadvantages, he has produced a work which is not destitute of information to the physician and natuarlist.

In his zoological facts, the fleetness of the desert camel (Heirie), and desert horse, cannot be read without an involuntary incredulity. The only nourishment of the latter is a feed of camel's milk once a day; and when they have been attempted to be *fed* on barley and straw, like other horses, they become fatter and *look better*, but lose their fleetness entirely. The heirie is often so valuable as to be bartered for two hundred camels. One of these animals, we are told, once came from Fort St Joseph, in the Senegal river, to Mogodor, in seven days; and a young man, to procure some oranges for his mistress, mounted at dawn of day, went an hundred miles, and returned that night after the gates were shut!

The following is his account of euphorbium, gum ammoniac, and gum arabic, as productions of Barbary. We should feel ourselves obliged to any gentleman who has access to Willdenow's Flora Berolinensis, to transmit to us his account of the Heracleum gummiferum; for we think that, by comparing it with Mr Jackson's account of the plant, it may be ascertained whether or not Willdenow is right in his conjecture that it produces the gum ammoniac.

"*Euphorbium.—Furliune* is the Arabic name of this gum, which is produced by a very curious succulent plant, growing on the Atlas mountains, and called by the Shelluhs and Arabs, *Dergmuse* *; in its general form, it resembles a large goblet, and is somewhat like a wild thistle. From the main body of the plant proceed several solid leafless branches, about three inches in circumference, and one in diameter, from the top of which shoot out similar ones, each bearing on its summit a vivid crimson flower; these branches are scolloped, and have on their outer sides small knots, from which grow five extremely sharp, pointed thorns, about one-third of an inch in length †. The stalk is at first soft and succulent, but becomes hard in a few years, when the plant assumes the above-mentioned form, and may then be considered at its maturity; if cut in this state with a sword, it emits a large quantity of corrosive, lacteous juice, which, if squeezed between the fingers, will excoriate; when old, the plant withers, and this juice becomes dry, and turns to powder. The inhabitants of those parts of the lower regions of Atlas, make incisions in the branches of the plants with a knife, whence the juice issues, which, after being heated by the sun, becomes a substance of a whitish yellow colour, and in the month of September drops off, and forms the gum Euphorbium. The plants produce abundantly only once in the four years, but this fourth year's produce is more than all Europe can consume; for being a very powerful cathartic, it is there little used. The people who collect the gum, are obliged to tie a cloth over their mouth and nostrils, to prevent the small dusty particles from annoying them, as they produce incessant sneezing.

"The branches of the plant are brought to Mogodor, for the use of the tanners, by the boats which go from thence to Agadeer (where it abounds),

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* Probably the Euphorbium officinalis of Linnæus.

† These adhere to every thing which touches them, and seems to have been intended by nature to prevent cattle from eating this caustic plant, which they *always avoid, on* account of its prickles.

abounds), and to it probably the Marocco leather owes its reputed pre-eminence. It is also in great request among the women, as a *depilatory*. Though the plant abounds at Agadeer, yet, either from the nature of the soil, or the climate not being sufficiently hot, it is stunted, and never comes to perfection. During the three years I resided there, I never saw any gum attached to it. It flourishes in stony mountainous situations, interspersed with rocks, whose interstices are filled with a black loam of decomposed vegetable earth.

" *Ammoniacum*, called *Feshook* in Arabic, is produced from a plant similar to the European fennel, but much larger. In most of the plains of the interior, and particularly about El Araiche, and M'sharrah Rummellah, it grows ten feet high. The gum ammoniac is procured by incisions in the branches, which, when pricked, emit a lacteous, glutinous juice, which, being hardened by the heat of the sun, falls on the ground, and mixes with the red earth below; hence the reason that gum ammoniac of Barbary does not suit the London market. It might, however, with a little trouble, be procured perfectly pure; but when a prejudice is once established against any particular article, it is difficult to efface it. The gum in the above-mentioned state is used in all parts of the country for cataplasms and fumigations. The sandy light soil which produces the gum ammoniac, abounds in the north of Marocco. It is remarkable, that neither bird nor beast is seen where this plant grows, the vulture only excepted. It is, however, attacked by a beetle having a long horn proceeding from its nose, with which it perforates the plant, and makes the incisions whence the gum oozes out.

" *Gum Arabic.*—The gum called Marocco or Barbary gum, is produced from a high thorny tree called Attaleh, having leaves similar to the Arar, or Gum Sandrac tree, and the juniper. The best kind of Barbary gum is procured from the trees of Marocco, Ras-el-wed, in the province of Suse, and Bled-hummer, in the province of Abda; the secondary qualities are the produce of Shedma, Duquella, and other provinces; the tree grows abundantly in the Atlas mountains, and is found also in Bled-el-jerrêde. The gum, when new, emits a faint smell, and, when stowed in the warehouse, is heard to crack spontaneously for several weeks; and this cracking is the surest criterion of new gum, as it never does so when old; there is, however, scarcely any difference in the quality. The Attaleh is not so large a tree as the Arar, which produces the Sandrac gum, nor does it reach the size of the Aurwar tree, which produces the gum Senegal. It has a low crooked stem, and its branches, from the narrowness of its leaves (long and scanty), have a harsh, withered, and unhealthy appearance, at the time it yields the most gum, that is, during the hot and parching heat of July and August; but although not an ornamental tree, it is a most useful plant, and will always be considered valuable. Its wood is hard, and takes a good polish; its seeds, which are enclosed in a pericarpium, resemble those of the lupin, yield a reddish dye, and are used by the tanners in the preparation of leather. These seeds attract the goats, who are very fond of eating them. The more sickly the tree appears, the more gum it yields; and the hotter the weather, the more prolific it is. A wet winter and a cool or mild summer are unfavourable to gum."

In speaking of the diseases of Marocco, he has inserted a few observations on the leprosy.

"Leprosy, called Jeddem, or Murd Jeddem, is very prevalent in Barbary: people affected with it are common in the province of Haha, where oil argannick is much used, which, when not properly prepared, is said to be a great heater of the blood. The lepers of Haha are seen in parties of ten or twenty together, and approach travellers, to beg charity. In the city of Marocco, there is a separate quarter, outside of the walls, inhabited by lepers only. In passing through this place, I observed that its inhabitants were by no means disfigured in personal appearance, excepting that they generally have no eye-brows; the women, when young, are extremely handsome; they are sometimes flushed in the face, and at others pale; when they appear abroad, they assist their complexion with (el akker) rouge, and (el kahol) lead ore, with which latter they blacken their eye-lashes and eye-brows, and puncture the chin from the tip to the middle of the lower lip; but this practice, which they think increases their beauty, certainly disfigures them.

"Leprosy being considered epidemical, those who are affected with it are obliged to wear a badge of distinction whenever they leave their habitations, so that a straw hat with a very wide brim, tied on in a particular manner, is the signal for persons not to approach the wearer; the lepers are seen in various parts of Barbary sitting on the ground with a wooden bowl before them, begging, and in this way they collect sometimes a considerable sum for such a country; they intermarry with each other, and although the whole system is said to be contaminated, yet they do not discover any external marks of disease, except the before-mentioned paucity or total want of eye-brows. On any change of weather, and particularly if the sky be overcast, and the air damp, they will be seen sitting round a fire, warming their bones as they term it, for they ache all over till the weather resumes its wonted salubrity. The elephantiasis has been thought a species of leprosy, for it dessicates and hardens the epidermis of the legs, which swell, and appear rugous."

His account of the plague, to which he has devoted an appendix, is very particular, and in our opinion, valuable, especially as connected with the epidemic disease which prevailed about that time in the south of Europe, and for a full account of which we have long looked in vain to the medical men connected with the garrison of Gibraltar.

" From various circumstances and appearances, and from the character of the epidemical distemper which raged lately in the south of Spain, there is every reason to suppose it was similar to that distemper or plague which depopulated West Barbary; for whether we call it by the more reconcilable appellation of the epidemy, or yellow fever, it was undoubtedly a plague, and a most destructive one; for wherever it prevailed, it invariably carried off, in a few months, one-half, or one-third, of the population.

" It does not appear how the plague originated in Faz in the year 1799. Some persons who were there at the time it broke out have confidently ascribed it to infected merchandize imported into that place from the East; whilst others, of equal veracity and judgment, have not scrupled to ascribe it to the locusts which had infested West Barbary during the seven preceding years, the destruction of which was followed by the (Jedrie) small-pox, which pervaded the country, and was generally fatal. The jedrie is supposed to be the forerunner of this species of epidemy, as appears by an ancient Arabic manuscript, which gives an account of the same disorder having carried off two-thirds of the inhabitants of West Barbary about four centuries since. But however this destructive epidemy originated, its leading features were novel, and its consequences more dreadful, than the common plague of Turkey, or that of Syria, or Egypt, as will appear by the following observations:

" In the month of April, 1799, a plague of a most destructive nature manifested itself in the city of Old Faz, which soon after communicated itself to the new city, carrying off one or two the first day, three or four the second day, six or eight the third day, and increasing progressively, until the mortality amounted to two in the hundred of the aggregate population, continuing *with unabated violence*, ten, fifteen, or twenty days; being of longer duration in old than in new towns; then diminishing in a progressive proportion from one thousand a day, to nine hundred, then to eight hundred, and so on until it disappeared.

" Whilst it raged in the town of Mogodor, a small village (Diabet), situated about two miles south-east of that place, remained uninfected, although the communication was open between them: on the thirty-fourth day, however, after its first appearance at Mogodor, this village was discovered to be infected, and the disorder raged with great violence, making dreadful havock among the human species for twenty-one days, carrying off, during that period, one hundred persons, out of one hundred and thirty-three, the original population of the village, before the plague visited it; none died after this, and those who were infected, recovered in the course of a month or two, some losing an eye, or the use of a leg or an arm.

" Many similar circumstances might be here adduced relative to the numerous and populous villages dispersed through the extensive Shelluh province of Haha, all which shared a similar or a worse fate. Travelling through this province, shortly after the plague had

exhausted

d itself, I saw many uninhabited ruins, which I had before d as flourishing villages. On making inquiry concerning the on of these dismal remains, I was informed that, in one vil- ich contained six hundred inhabitants, four persons only had the ravage. Other villages which had contained four or dred, had only seven or eight survivors left to relate the ca- they had suffered. Families which had retired to the coun- avoid the infection, on returning to town, when all infection apparently ceased, were generally attacked, and died; a singular stance of this kind happened at Mogodor, where, after the mortality had subsided, a corps of troops arrived from the city of Terodant, in the province of Suse, where the plague had been raging, and had subsided; these troops, after remaining three days at Mogodor, were attacked with the disease, and it raged exclusively among them for about a month, during which it carried off two-thirds of their original number, one hundred men; during this interval the other inhabitants of the town were exempt from the disorder, though these troops were not confined to any particular quarter, many of them having had apartments in the houses of the inhabitants of the town.

"The destruction of the human species in the province of Suse was considerably greater than elsewhere; Terodant, formerly the metropolis of a kingdom, but now that of Suse, lost, when the infection was at its height, about eight hundred each day; the ruined, but still extensive and populous city of Marocco, lost one thousand each day; the populous cities of Old and New Faz diminished in population twelve or fifteen hundred each day*, insomuch that, in these extensive cities, the mortality was so great, that the living having not time to bury the dead, the bodies were deposited, or thrown altogether into large holes, which, when nearly full, were covered over with earth. Young, healthy, and robust persons, of full stamina, were for the most part attacked first, then women and children, and lastly, thin, sickly, emaciated, and old people.

"After this deadly calamity had subsided, we beheld a general alteration in the fortunes and circumstances of men; we saw persons who, before the plague, were common labourers, now in possession of thousands, and keeping horses without knowing how to ride them. Parties of this description were met wherever we went, and the men of family called them in derision (el wurata) the inheritors†. Provisions also became extremely cheap and abundant; the flocks and herds had been left in the fields, and there was now no one to own them; and the propensity to plunder, so notoriously attached to the character of the Arab, as well as to the Shelluh and Moor, was superseded by a conscientious regard to justice, originating from a continual apprehension of dissolution, and that the El-khere*, as the plague was now called, was a judgment of the Omnipotent on the disobedience of man, and that it behoved every individual to amend his conduct, as a preparation to his departure for paradise.

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* There died, during the whole of the above periods, in Marocco, 50,000; in Faz, 65,000; in Mogodor, 4509; and in Saffy 5000; in all 124,500 souls!

† Des gens parvenues, as the French express it; or upstarts.

"The expense of labour at the same time increased enormously, and never was equality in the human species more conspicuous than at this time; when the corn was to be ground, or bread baked, both were performed in the houses of the affluent, and prepared by themselves, for the very few people whom the plague had spared, were insufficient to administer to the wants of the rich and independent, and they were accordingly compelled to work for themselves, performing personally the menial offices of their respective families.

"The country being now depopulated, and much of the territory without owners, vast tribes of Arabs emigrated from their abodes, in the interior of Sahara, and took possession of the country contiguous to the river Draha, as well as many districts in Suse; and, in short, settling themselves, and pitching their tents wherever they found a fertile country with little or no population.

"The symptoms of this plague varied in different patients; the variety of age and constitution gave it a like variety of appearance and character; in some it manifested itself by a sudden and violent shivering, in others by a sudden delirium, succeeded by great and unquenchable thirst. Cold water was eagerly resorted to by the unwary and imprudent, and proved fatal to those who indulged in its momentary relief. Some had one, two, or more buboes, which formed themselves, and became often as large as a walnut, in the course of a day; others had a similar number of carbuncles; others had both buboes and carbuncles, which generally appeared in the groin, under the arm, or near the breast. Those who were affected † with a shivering, having no buboe, carbuncle, spots, or any other exterior disfiguration, were invariably carried off in less than twenty-four hours, and the

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[*] The good, or benediction.

[†] M'drob is an idiom in the Arabic language somewhat difficult to render into English; it is well known that the Mohammedans are predestinarians, and that they believe in the existence of spirits, devils, &c.; their idea of the plague is, that it is a good or blessing sent from God to clear the world of a superfluous population; that no medicine or precaution can cure or prevent it; that every one who is to be a victim to it is (mktube) recorded in the Book of Fate; that there are certain Genii who preside over the fate of men, and who sometimes discover themselves in various forms, having often legs similar to those of fowls; that these Genii are armed with arrows; that when a person is attacked by the plague, which is called in Arabic l'amer, or the destiny or decree, he is shot by one of these Genii, and the sensation of the invisible wound is similar to that from a musket-ball; hence the universal application of M'drob to a person afflicted with the plague, i. e. he is shot; and if he die, ufah ameruh, his destiny is completed or terminated, (in this world). I scarcely ever yet saw the Mooslemin who did not affirm that he had at sometime of his life seen these Genii, and they often appear, they say, in rivers.

the body of the deceased became quickly putrefied, so that it was indispensably necessary to bury it a few hours after dissolution. I recommended Mr Baldwin's* invaluable remedy of olive oil, applied according to his directions; several Jews, and some Mooselmin, were induced to try it, and I was afterwards visited by many, to whom I had recommended it, and had given them written directions in Arabic how to apply it; and I do not know any instance of its failing when persevered in, even after the infection had manifested itself.

"I have no doubt but the epidemy which made its appearance at Cadiz, and all along the southern shores of Spain, immediately as the plague was subsiding in West Barbary, was the same disorder with the one above described, suffering, after its passage to a Christian country, some variation, originating from the different modes of living, and other circumstances; for nothing can be more opposite than the food, dress, customs, and manners of Mohammedans and Christians, notwithstanding the approximation of Spain to Marocco. We have been credibly informed, that it was communicated originally to Spain, by two infected persons who went from Tangier to Estapona, a small village on the opposite shore; who, after eluding the vigilance of the guards, reached Cadiz. We have also been assured, that it was communicated by some infected persons who landed in Spain, from a vessel that had loaded produce at L'Araiche in West Barbary. Another account was, that a Spanish privateer, which had occasion to land its crew for the purpose of procuring water in some part of West Barbary, caught the infection with communicating with the natives, and afterwards proceeding to Cadiz, spread it in that town and the adjacent country.

"It should be observed, for the information of those who may be desirous of investigating the nature of this extraordinary distemper, that, from its character and its symptoms, approximating to the peculiar plague, which (according to the before mentioned Arabic record) ravaged and depopulated West Barbary four centuries since, the Arabs and Moors were of opinion it would subside after the first year, and not appear again the next, as the Egyptian plague does; and agreeably to this opinion, it did not reappear the second year; neither did St John's day, or that season, affect its virulence; but a bout that period there prevails along the coast of West Barbary a trade wind, which, beginning to blow in the month of May, continues throughout the months of June, July, and August, with little intermission. It was apprehended that the influence of this trade wind, added to the superstitious opinion of the plague ceasing on St John's day, would stop, or at least sensibly diminish the mortality; but no such thing happened; the wind did set in, as it invariably does, about St John's day; the disorder, however, increased at that period, rather than diminished. Some persons were of opinion, that the infection maintained its virulence till the last; that the decrease of mortality did not originate from a decrease of the *miasma*, but from a decrease of population, and a consequent want of subjects to prey upon; and this indeed is a plausible idea; but admitting it to be just, how are we to account for the almost invariable fatality of the disorder, when at its height, and the comparative innocence of it when on the decline? for *then*, the chance to those who had it, was, that they would recover and survive the malady.

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* Late British Consul in Egypt.

"The old men seemed to indulge in a superstitious tradition, that when this peculiar kind of epidemy attacks a country, it does not return or continue for three or more years, but disappears altogether (after the first year), and is followed the seventh year by contagious rheums and expectoration, the violence of which lasts from three to seven days, but is not fatal. Whether this opinion be in general founded in truth I cannot determine; but in the spring of the year 1806, which was the seventh year from the appearance of the plague at Faz in 1799, a species of influenza pervaded the whole country; the patient going to bed well, and, on rising in the morning, a thick phlegm was expectorated, accompanied by a distressing rheum, or cold in the head, with a cough, which quickly reduced those affected to extreme weakness, but was seldom fatal, continuing from three to seven days, with more or less violence, and then gradually disappearing.

"During the plague at Mogodor, the European merchants shut themselves up in their respective houses, as is the practice in the Levant; I did not take this precaution, but occasionally rode out to take exercise on horseback. Riding one day out of the town, I met the governor's brother, who asked me where I was going, when every European was shut up? "To the garden," I answered. "And are you not aware that the garden and the adjacent country is full of (Genii) departed souls, who are busy in smiting with the plague every one they meet?" I could not help smiling, but told him, that I trusted to God only, who would not allow any of the Genii to smite me unless it were his sovereign will, and that if it were, he could effect it without the aid of Genii. On my return to town in the evening, the sandy beach from the town-gate to the sanctuary of Seedi Mogodole * was covered with biers. My daily observations convinced me that the epidemy was not caught by approach, unless that approach was accompanied by an inhaling of the breath, or by touching the infected person; I therefore had a separation made across the gallery, inside of my house, between the kitchen and dining parlour, of the width of three feet, which is sufficiently wide to prevent the inhaling the breath of a person. From this partition or table of separation I took the dishes, and after dinner returned them to the same place, suffering none of the servants to come near me; and in the office and counting-house I had a partition made to prevent the too near approach of any person who might call on business; and this precaution I firmly believe to be all that is necessary, added to that of receiving money through vinegar, and taking care not to touch or smell infectious substances.

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* A sanctuary a mile south-east of the town of Mogodor, from whence the town receives its name.

"Fear had an extraordinary effect in disposing the body to receive the infection, and those who were subject thereto invariably caught the malady, which was for the most part fatal. At the breaking out of the plague at Mogodor, there were two medical men, an Italian and a Frenchman, the latter, a man of science, a great botanist, and of an acute discrimination; they however did not remain, but took the first opportunity of leaving the place for Teneriffe, so that the few Europeans had no expectation of any medical assistance except that of the natives. Plasters of gum amoniacum and the juice of the leaves of the opuntia, or kermuse ensarrah, i. e. prickly pear, were universally applied to the carbuncles, as well as the buboes, which quickly brought them to maturity: many of the people of property took copious draughts of coffee and Peruvian bark. The *Vinaigre du quatre voleurs* was used by many, also camphor, smoking tobacco, or fumigations of gum Sandrac; straw was also burned by some, who were of opinion, that any thing which produced abundance of smoke was sufficient to purify the air of pestilential effluvia.

"During the existence of the plague I had been in the chambers of men on their death-bed; I have had Europeans at my table, who were infected, as well as Moors, who actually had buboes on them; I took no other precaution than that of separation, carefully avoiding to touch the hand, or inhale the breath; and, notwithstanding what may have been said, I am decidedly of opinion that the plague, at least this peculiar species of it, is not produced by any infectious principle in the atmosphere, but caught solely by touching infected substances, or inhaling the breath of those who are diseased; and that it must not be confounded with the common plague of Egypt, or Constantinople, being a malady of a much more desperate and destructive kind. It has been said, by persons who have discussed the nature and character of the plague, that the cultivation of a country, the draining of the lands, and other agricultural improvements, tend to eradicate or diminish it; but at the same time, we have seen countries depopulated where there was no morass, or stagnate water for many days journey, nor even a tree to impede the current of air, or a town, nor any thing but encampments of Arabs, who procured water from wells of a great depth, and inhabited plains so extensive and uniform, that they resemble the sea, and are so similar in appearance after, as well as before sun-rise, that if the eye could abstract itself from the spot immediately surrounding the spectator, it could not be ascertained whether it were sea or land.

"Many of the cities and towns of Marocco are visited yearly by malignant epidemics, which the natives call fruit-fevers; they originate from their indulgence in fruit, which abounds all over this fertile garden of the world. The fruits deemed most febrile are musk-mellons, apricots, and all unripe stone-fruits. *Apinus, de Medicina Egyptiorum,* says, " Autumno grassantur febres pestilentiales multæ quæ subdole invadunt, et sæpe medicum et ægrum decipiunt."

" I shall now subjoin a few cases for the further elucidation of this distemper, hoping that the medical reader will pardon any inaccuracy originating from my not being a professional man.

" Case I.—One afternoon, I went into the kitchen, and saw the cook making the bread; he appeared in good health and spirits; I afterwards went into the adjoining parlour, and took up a book to read; in half an hour the same man came to the door of the room, with his eye starting from his head, and his bed-clothes, &c. in his hands, saying " open the gate for me, for I am (m'drob) smitten." I was astonished at the sudden transition, and desired him to go out and I would follow and shut the gate. The next morning he sent his wife out an errand, and got out of bed, and came to the gate half-dressed, saying that he was quite recovered, and desired I would let him in. I did not, however, think it safe to admit him, but told him to go back to his house for a few days, until he should be able to ascertain that he was quite well; he accordingly returned to his apartments, but expired that evening, and before day-break his body was in such a deplorable state, that his feet was putrefied. His wife, by attending on him, caught the infection, having a carbuncle, and also buboes, and was confined two months before she recovered.

" Case II.—L. Hage Hamed O Bryhim, the old governor of Mogodor, had twelve or more children and four wives, who were all attacked, and died (excepting only one young wife); he attended them successively to the grave, and notwithstanding that he assisted in performing the religious ceremony of washing the body, he never himhimself caught the infection; he lived some years afterwards, and out of the whole household, consisting of wives, concubines, children, and slaves, he had but one person left, which was the before mentioned young wife; this lady, however, had received the infection, and was confined some time before she recovered.

" Case III.—Hamed ben A——— was smitten with the plague, which he compared to the sensation of two musket balls fired at him; one in each thigh; a giddiness and delirium succeeded, and immedietely afterwards a green vomiting, and he fell senseless to the ground; a short time afterwards, on the two places where he had felt as if shot, biles or buboes formed, and on suppurating, discharged a fœtid black pus; a (jimmera) carbuncle on the joint of the arm near the elbow was full of thin ichor, contained in an elevated skin, surrounded by a burning red colour; after three months confinement, being reduced to a skeleton, the disorder appeared to have exhausted itself, and he began to recover his strength, which in another month was fully re-established. It was an observation founded on daily experience, during the prevalence of this disorder, that those who were attacked with a nausea at the stomach, and a subsequent vomiting of green or yellow bile, recovered after suffering in various degrees, and that those who were affected with giddiness, or delirium, followed by a discharge or vomiting of black bile, invariably died after lingering, one, two, or three days, their bodies being covered with small black spots similar to grains of gunpowder; in this state, however, they possessed their intellects, and spoke rationally till their dissolution.

"When the constitution was not disposed, or had not vigour enough, to throw the miasma to the surface in the form of biles, buboes, carbuncles, or blackish spots, the virulence is supposed to have operated inwardly, or on the vital parts, and the patient died in less than twenty-four hours, without any exterior disfiguration.

"CASE IV.—It was reported that the Sultan had the plague twice during the season, as many others had, so that the idea of the plague, like the small-pox, attacking a person but once in his life, is refuted; the Sultan was cured by large doses of Peruvian bark frequently repeated, and it was said that he found such infinite benefit from it, that he advised his brothers never to travel without having a good supply. The Emperor, since the plague, always has by him a sufficient quantity of quill bark to supply his daily emergency.

"CASE V.—H. L. was smitten with the plague, which affected him by a pain similar to that of a long needle (as he expressed himself) repeatedly plunged into his groin. In an hour or two afterwards, a (jimmera) carbuncle appeared in the groin, which continued enlarging three days, at the expiration of which period, he could neither support the pain, nor conceal his sensations; he laid himself down on a couch; an Arabian doctor applied to the carbuncles the testicles of a ram cut in half, whilst the vital warmth was still in them; the carbuncle on the third day was increased to the size of a small orange. The before-mentioned remedy was daily applied during thirty days, after which he resorted to cataplasms of the juice of the (opuntia) prickly pear-tree, (feshook) gum ammoniac, and (zite el aud) oil of olives, of each one-third; this was intended to promote suppuration, which was soon effected; there remained after the suppuration a large vacuity, which was daily filled with fine hemp dipped in honey: by means of this application the wound was filled up, and the whole was well in thirty-nine days.

"CASE VI.—El H—t—e, a trading Jew of Mogodor, was sorely afflicted; he called upon me, and requested some remedy; I advised him to use oil of olives, and having Mr Baldwin's mode of administering it*, I transcribed it in the Arabic language, and gave it to him; he followed the prescription, and assured me, about six weeks afterwards, that, with the blessing of God, he had preserved his life by that remedy only; he said, that after having been anointed with oil, his skin became harsh and dry like the scales of a fish, but that in half an hour more, a profuse perspiration came on, and continued for another half hour, after which he experienced relief; this he repeated forty days, and he was then quite recovered.

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* Mr Baldwin observed, that whilst the plague ravaged Egypt, the dealers in oil were not affected with the epidemy, and he accordingly recommended people to anoint themselves with oil every day as a remedy.

" Case VII.—Moh-m'd ben A——— fell suddenly down in the street; he was conveyed home; three carbuncles and five buboes appeared the same day in his groin, under the joint of his knee, and arm-pits, and inside the elbow; he died in three hours after the attack.

" Case VIII.—L. R. was suddenly smitten with this dreadful calamity, whilst looking over some Marocco leather; he fell instantaneously; afterwards, when he had recovered his senses, he described the sensation as that of the prickling of needles, at every part wherein the carbuncles afterwards appeared; he died the same day in spite of medicine.

" Case IX—Mr Pacifico, a merchant, was attacked, and felt a prickling pain down the inside of the thick part of the thigh, near the sinews; he was obliged to go to bed. I visited him the next day, and was going to approach him, but he exclaimed, " Do not come near me, for although I know I have not the prevailing distemper, yet your friends, if you touch me, may persuade you otherwise, and that might alarm you; I shall, I hope, be well in a few days." I took the hint of Don Pedro de Victoria, a Spanish gentleman, who was in the room, who offering me a sagar, I smoked it, and then departed; the next day the patient died. He was attended during his illness by the philanthropic Monsieur Subremont, who did not stir from his bed-side till he expired; but after exposing himself in this manner, escaped the infection, which proceeded undoubtedly from his constantly having a pipe in his mouth.

" Case X.—Two of the principal Jews of the town giving themselves up, and having no hope, were willing to employ the remainder of their life in affording assistance to the dying and the dead, by washing the bodies and interring them; this business they performed during thirty or forty days, washing the bodies of those who died of the plague, and putting on them their shrouds, during all which time they were not attacked; when the plague had nearly subsided, and they began again to cherish hopes of surviving the calamity, they were both smitten, but after a few days illness recovered, and are now living.

" From this last case, as well as from many others similar, but too tedious here to recapitulate, it appears that the human constitution requires a certain miasma, to prepare it to receive the pestilential infection.

" *General Observations.*—When the carbuncles or buboes appeared to have a blackish rim round their base, the case of that patient was desperate, and invariably fatal. Sometimes the whole body was covered with black spots like partridge-shot; such patients always fell victims to the disorder, and those who felt the blow internally, shewing no external disfiguration, did not survive more than a few hours."

THE INQUIRER, No. XX.

Medical Gleanings.

> "Indagatio rerum tum maximarum, tum occultissimarum, habet oblectationem, si aliquid occurret quod verisimile videatur, humanissimâ completur animus voluptate."
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> CICERO, Quest. Acad. Lib. iv.

Antiquity of Syphilis.

WAS there ever a period in which the venereal disease was unknown? Is it not the provision of nature to render marriage expedient?—It is remarkable, that none of the physicians, who lived when syphilis first appeared in Europe, should have written something certain and decisive respecting its origin;—but there is as much dispute and difference of opinion among the earliest, as between the most recent writers upon the subject. Alexander Benedictus first suspected the American origin of this disease: he wrote about 1497. The quickness with which it is reported to have spread over all Europe is astonishing. In the month of March 1493, Columbus returned to Spain, after having discovered the New World: in the summer of that same year, the venereal disease appeared in various parts of Italy and Germany. Are there no traces of the disease before the latter end of the fifteenth century? Did it not break out in the Jewish camp, (Numbers, cap. xxv.) on having intercourse with strange women? Is it not the *feminine* disease, θηλειαν νουσον of Herodotus, which attacked the Scythians in consequence of their irruption into the temple of Venus at Ascalon? Is it nowhere described by Hippocrates or Celsus? Is not the whole history of its having been brought from America, a mere result of that property of the human frame, which renders a given disease far more formidable to a strange constitution than to a familiarized one; as the Walcheren fever will destroy a stranger, which only incommodes an inhabitant of the island?

There are probably various forms of disease which nature has provided for the special chastisement of promiscuous sexual intercourse. The opportunities of observing and discriminating such diseases are here very rare; but the Arabian physicians must have seen much of them, and much might perhaps be learnt, even now, among the nations of the east.

Tissot's "Onanie."

The title of this book is unlearnedly chosen. The sin of Onan is commonly supposed to have been solitary indulgence. But as the word, which has been translated *ground*, (Genesis, chap. xxxviii. v. 9.) is liable to the same double sense as the English word *bottom*; it is plain that the crime of Onan consisted in the perverse use of his wife. He was, to borrow a Greek euphemism, a worshipper of the Venus Callipyga.

Nocturnal Pollution.

Ixion having aspired to the love of Juno, a cloud was sent to him in her stead; he clasped the imaginary goddess, and was sentenced, for his presumption, to be bound on an ever-whirling wheel.

No doubt, this legend conceals a case of nocturnal pollution, so profuse, as to bring on giddiness. Some beautiful statue of Juno might have suggested to his libidinous imagination the figure which appeared in his sleep, and which was recalled with too complacent and dangerous a frequency.

A temperate indulgence in the slumbers of Ixion, is said to have been recommended to the Catholic clergy, by the theological Professor Tapper of Louvain, in a satirical work, whence Bayle quotes the following words: "*Ad cælibatum servandum vitandumque conjugium, soleo nostris orgiis initiatos hortari, ut quoties sentirent desiderio humanitatis intumuisse venas, orarent Deum ut ab eâ imbecillitate liberaret eos per somnia et nocturnas pollutiunculas*"

Among the Jews, such accidents incapacitated a priest from officiating for the day; and thus they were advertised to the whole pious world. (Leviticus, cap. xv. v. 16. &c. cap. xxii. v. 4.)

Hot-Baths.

Medea is fabled to have boiled, in a magic cauldron, the limbs of her aged father Æson, and thus to have restored his youth. From this legend, says Le Clerc, we may infer that Medea introduced the use of artificial hot-baths.

Cold-bathing in Fevers.

Amerigo Vespucci describes cold-bathing as the remedy for fever, which was used by the American Indians; but they accompanied it with a practice which must have counteracted its beneficial effects. "Cum eorum quempian febricitare contigit, horâ quâ febris eum asperius inquietat, ipsum in frigentissimam aquam immergunt et balneant, postmodumque per duas horas circa ignem validum, donec plurimum calescat, currere et recurrere cogunt et postremo ad dormiendum deferunt, quo quidem medicamento complures eorum sanitati restitui vidimus."

Spontaneous Generation.

Dr Darwin's notion that animal existence began in a worm, may be traced in Cœsalpinus. In his Peripatetic Questions, these words occur: "Quod si aliquando meminerim primam perfectorum animalium generationem ex verme fieri, sic intelligimus primam, quia in tempore infinito, quod supponitur a Peripateticis, deficientibus in aliquo tempore omnibus singularibus alicujus speciei, primum aliquod ex putredine oriri potest, ex cujus semine propagetur species, ut quibusdam contigit ex putredine tantùm propagari."

Æsculapius.

Æsculapius, says Clemens Alexandrinus, was of Memphis. He was then an Egyptian physician, who went to settle in Greece, and whom the Greeks, with grateful admiration, deified. The serpent which twisted round his staff, and which accompanied him everywhere, indicates that he was educated about the same time as Moses, Jannes, and Jambres; since they too were accompanied by tame serpents, which had been taught to play tricks, and which formed a part of the medical costume of that age, but not of the next.

The Physician Jesus, of Jerusalem.

Protestants have excluded from the canon of Scripture the Wisdom and the Ecclesiasticus. This is affronting the profession, for these two books were written by medical men. The author of the Wisdom says, (cap. vii. v. 20 and 21.) "The diversities of plants, and the virtues of roots, and all such things as are either secret or manifest, them I know." And the author of Ecclesiasticus, probably the same person at a maturer age, says, (cap. xxxviii. v. 12-15.) "Give place to the physician, for the Lord hath created him: let him not go from thee, for thou hast need of him. Here is a time when, in their hands, there is good success."

There are many medical remarks in this writer, for instance:

(Cap. xxxi. v. 20.) "Sound sleep cometh of moderate eating. Who riseth early, his wits are with him: but the pains of watching, and choler, and pangs of the belly, are with an insatiable man. And if thou hast been forced to eat, so forth, vomit, and thou shalt have rest."

(Cap. xxxi. v. 25.) "Show not thy valiantness in wine, for wine hath destroyed many. Wine is as good as life to a man if it be drunk moderately: what is life then to man that is without wine? for it was made to make men glad. Wine measureably drunk, and in season, bringeth gladness of the heart, and cheerfulness of the mind. But wine drunken with excess maketh bitterness of the mind, with brawling and quarrelling. Drunkenness increaseth the rage of a fool until he offend: it diminisheth strength and maketh words."

(Cap. xxxvii. v. 29.) "Be not insatiable in any dainty thing, nor too greedy upon meats: for excess of meats bringeth sickness, and surfeiting will turn into bile."

This writer flourished shortly before Christ: for, in his preface, he says, that he went to Egypt in the rhirty eighth-year of the battle of Actium, when Ptolemy Evergetes (the son of Selena, the daughter of Anthony and Cleopatra) was, under the Romans, titular King of Egypt. He was sent to college, therefore, in the eighth year of the Christian era, and might then have been about eighteen. Themison, the founder of the Methodic sect, the Brown of the ancient world, who endeavoured to reduce the forms of disease to two, the sthenic and the asthenic, (*strictum et laxum*) was probably the professor who then lectured at Alexandria. After quitting college, Jesus states (cap. xxxiv. v. 10.) that he travelled, and (xxv. i.) that he married, but had no children; and that, with little labour (li. 27.) he acquired a fortune, which indicates that he was patronized by some prince. He alludes (li. 5.) to some great or signal adversity, when, after being falsely accused to his king, he was delivered "out of the depth of the belly of hell;" which seems to indicate imprisonment. Probably he quitted Jerusalem after this incident: for his mode of dating indicates some other residence. Where he died is unknown: no doubt in some house of learning, some college, (li. 23.)

Oriental Book of Medicine.

Ernest Grudler, a Dane, visited Malabar in 1708, and gives a more documented account of the degree of medical knowledge in the east, than any subsequent writer. He makes extracts from the Vagada-shaster, which exhibit a state of medical superstition, analogous to that prevalent in Palestine about the time of Christ. The exorcism of demons is a branch of the profession.

Consumption.

Fifty-five thousand persons are reported to die annually from *pulmonary* consumption in Great Britain. How can this mortality be diminished? Is there no remedy for so alarming a disease? Can its ravages be checked by no preventive measures? The reports of consumption in other countries, correspond with the medical calculations of its prevalence in our own. At Paris, Berlin, Vienna, Wilna, Naples, and Lisbon, the frequency of the disease, and the inefficacy of remedies, is lamented over with unmitigated sorrow. The Germans are as liable to scrofula and catarrhs, and consequent consumption, as ourselves. The Dutch are remarkably exempt.

Medical Receipts preserved in Ancient Chartularies.

The following are taken from the ancient chartulary or register of the bishoprick of Glasgow. They are not written on the margin, or on any blank leaf, but in the body of the leaves, as marked, among the deeds and writings recorded there respecting the affairs and property of the bishoprick; so that they cannot have been added at any time posterior to writing the remainder of the book. This register is supposed to be as old as the 13th century.

Fol. xxiiij.—Ad dolorem ijlii. Scribe in anulo aureo. et porta in digito continue. Thebal. Guth. Guthani. Hoc est. Deus princeps. Conditor. conditorum. Theos enim Deus. Bal. princeps. Guth. conditor. Guthani. conditorum.

Scribe etiam si vis in eodem anulo vel in alio aureo. Ad vitandam omnem ventositatem. que fit sub umbilico. Theos. ijdros. Adros. Hoc est. Deus creator creaturorum. Theos. enim Deus. ijdros creator. Adros. creaturarum.

Fol. xxxj.—Pillule iste confecte fuerunt in presentia nostra quarum species electe erant et recentes. Earum vero commendationes sunt satis famose. Videlicet, quia pre omnibus visum clarificant. Auditum corroborant. Spiritualia confortant. Memoriam reparant. Sanitatem custodiunt. regunt pre omnibus corpus humanum. Invenimus quod papa Alexander qualibet die eis utebatur. Earum vero receptio talis est. ℞. Calami aromatici. Cubebe. Nucis. Muscate. Macis. Spice. epithimi. Carpobalsami. Squinanti. Masticis. asari. Gariofilorum. Ana. Dragmas duas. Turbith. Colloquintide. Ana. dragmas tres. Singulorum Mirabolanorum. Ana. dragmas duas. Agarici. Sene. Ana unciam seriis. Aloen Cicotrini. ad pondus omnium. Confic. De uso vero et administratione istarum pillularum secundum quod experti sumus, dicimus quod vij. vel ix. ad quantitatem ciceris vel pisi. in nebulis de iiij$^{to.}$ in quartum cum omni securitate precedente usu oximill. dari possunt. Quamvis quidam aliter sentiant dicentes. propter exhibitionem istarum pillularum dietam assuetam nullatenus esse permutandam. De hora vero sumendi nulla sit hesitatio quia in nocte ante sompnum instantem debent sumi.

PART II.

CRITICAL ANALYSIS.

I.

An Inquiry into the Nature, Causes, and Cure of Hydrothorax; illustrated by interesting cases, and many living examples of the success of the method recommended. By L. MACLEAN, M. D. Sudbury, 1810. 8vo. pp. 519.

THIS inquiry is, in truth, a very full, methodical, and somewhat sholastic treatise on hydrothorax, a disease in which Dr Maclean appears to have had a very extensive experience. And it is pretty broadly insinuated, that, having paid particular attention to this his favourite disease, he may understand it better, and cure it more readily than his brethren.

That he has composed a pretty good history of the disease; that his cases are numerous, his observations generally judicious; and that he has detailed the most efficacious and approved method of treatment, we very readily acknowledge. But his pretensions to originality in any of these points, we cannot, without some deductions, allow him.

Dr Maclean begins very properly from the beginning, just as our young graduates begin their theses, with the definition of the disease. Those of Sauvages, Sagar, and Vogel, are rejected as redundant, and as including symptoms such as the "alterius brachii stupor," which are far from being constant.

The elegant and concise definition of Dr Cullen is also deemed exceptionable, and rejected chiefly on account of the last symptom admitted, "aqua in pectore fluctuans," a phenomenon rarely indeed distinctly to be perceived, and which Dr Maclean assures us has hitherto eluded his observation. But this circumstance omitted, Dr Cullen's definition might, we think, have been retained, as being as perfect perhaps as any which can yet be given. The truth is, there is great difficulty in defining this disease by any selection of symptoms, for there are not many of constant and invariable concurrence, and not one of these which does not also belong to other diseases. But we think Dr Cullen's definition no way improved by the pruning and ingrafting of Dr Maclean, who proposes the following alteration: "Dyspnœa, decubitu horizontali, corporisque motu aucta; faciei pallor vel livor; urina pauca, rubra, sedimentum furfuraceo-lateritum, deponente; pulsus inequalis, intermittens; pedum vel manuum œdema; subita e somno, cum palpitatione, excitatio." Now, such a concurrence of symptoms is unquestionably very common in hydrothorax, but some of them are often wanting, and all of them may occur without the effusion of water in any part of the thorax. They are as applicable to, and as descriptive of the advanced stages of peripneumony, and mark as distinctly the character of vomica, empyema, and of organic diseases of the heart, as of hydrothorax. Nay, we shrewdly suspect, that some of the numerous cases related by Dr Maclean in his appendix, belonged rather to these than to hydrothorax—of Case xxxv. there can be little doubt.

Having described the precursors, early signs, and general history of the disease, Dr Maclean returns to give a more particular account of each particular symptom. The respiration was more or less affected in every case which has come under his observation. "It is sometimes quick, hurried, anxious, and irregular; while at others it is slow and laborious: at times it is performed with a peculiar wheezing noise, as if the air were passing and repassing with difficulty through a narrow, straitened, or as one of my patients expressed herself, through a metal tube." In hydrothorax, it has been said that the patient cannot lie down for half a minute; but this, our author very properly observes, is only true in the worst cases and most advanced periods.—

> "But although in some instances the patient be able to lie down without inconvenience, he is often suddenly roused soon after going to sleep by a most distressing sense of suffocation, oppression, and extreme anxiety about the præcordia, attended with palpitation; and if able to walk, he probably runs to a window for fresh air, and makes several laborious inspirations before he recovers his ordinary breathing. Under these most distressing paroxysms, the face is generally livid, and even black, and, together with the neck and chest, is covered with profuse sweats, appearing in large drops, which are generally followed by a remission of these symptoms, but not that complete intermission which succeeds the asthmatic paroxysm. The intellectual functions are, under these circumstances, much disturbed, the patient talking incoherently, and labouring under temporary delirium, which subsides with the paroxysm. As the disorder advances, he is thus immediately attacked on attempting to lie down; so that at length he is obliged to seek repose in a chair or bed, supported by pillows, in a sitting posture, some-

times with the chest inclined forward: even in this situation, as the quantity of water increases, he is suddenly awakened by similar sensations, and, dreading the repetition of this alarming symptom, he has no natural refreshing sleep, though he be overcome by constant drowsiness and stupor."

There is commonly greater difficulty of lying on one side than on the other. This depends on the site, diffusion, and quantity of the water; if confined entirely to one side, the patient can only lie on this.

"Diseases of certain viscera, however, in some instances reverse this order, of which a case may be seen in Home's Clinical Experiments, and in the works of Morgagni. And extensive adhesions of the lungs with the pleura costalis, by preventing the water from passing to the most depending part of the cavity, may do the same. Considerable collections of water in the pericardium likewise may have some influence in this respect. When both cavities are equally distended, the easiest position is on the back, with the shoulders elevated."

The countenance is much changed in hydrothorax; the lips, nose, eye-lids, and those parts of the face which are usually florid, become livid; while the rest of the face is pale and sallow, and the whole exhibits an expression of extreme anxiety and suffering.

The urine is commonly scanty and high-coloured, and deposits, on cooling, a copious deep pink, or yellowish brancy sediment In a few instances the urine is of a dark dusky brown hue, without sediment, but with an oily film on its surface. Three cases occurred to our author, in which the urine did not deviate from the natural state till toward the advanced stage. In idiopathic hydrothorax, the disorder, he observes, sometimes makes considerable progress before the determination to the kidneys is sensibly diminished, or before the quality of the urine is altered.

Palpitation of the heart, irregularity and intermission of the pulse, may be regarded as among the most frequent attendants on hydrothorax. But these symptoms are much varied in different cases;—and we know that, in some instances, they are not present. We even observe, in some of Dr Maclean's cases, that the pulse was regular.

"The palpitation of the heart and inequality of the pulse, may either precede, immediately attend, or succeed, the watery effusion; and it is of consequence to ascertain the time of their appearance: if they precede the symptoms of serous accumulation, especially in old age, or after acute inflammation of the chest, it may be inferred they arise from one or other of the organic affections of, or near the heart, hereafter enumerated; but if they commence about the same *time with*, or soon succeed, these symptoms, it may reasonably be concluded they are owing to the pressure of the water on the surface of the heart and lungs.

At some period or other of the disease, the extremities become more or less œdematous.—

> " The anasarcous limbs of genuine hydrothorax are colder, and more livid, than those of common anasarca; and this will be found proportioned to the degree of interruption of respiration. In a few instances, the blood seemed scarcely to circulate in the lower extremities for some weeks before death; and in one case, this was observed after the water had been completely evacuated, and the disposition to further accumulation corrected: from being enormously distended, they became completely emaciated; were intensely cold, of a dark livid colour, entirely void of sensibility, and for several days before death they were black, and covered with gangrenous vesicles."

Being suddenly roused from sleep by a sense of suffocation, is so frequent a symptom as to have been deemed diagnostic.— " This symptom, like every other, individually considered, affords no positive evidence of the presence of water; but when united with the other leading ones mentioned, however obscurely marked these may be, it ought," says Dr M. to " remove every doubt as to the nature of the disease."

Besides these more essential to the disease, there are other symptoms of frequent occurrence, as cough, dry, or humid, expectoration of blood, and pains in different parts of the chest. The brachii stupor our author has not met with so often as might be expected from the accounts of other writers. With regard to external tumor, and fluctuation of water, he remarks, that a tumor, elevation, or inequality of some part of the chest may sometimes be observed; or if the body be exposed to view, one side appears larger than the other. This swelling is more frequent, and sometimes very considerable, about the scrobiculus cordis and epigastrium, than any other part. In some cases, it is occasioned solely by the descent, or protrusion of the diaphragm, occasioned by the water; in others by the liver being thrust downwards and forwards from its natural seat, either in a sound, but more generally in a diseased state, by the same cause. The fluctuation is regarded by our author, who never met it, as merely a symptom of the imagination.—" But though it cannot be either heard, or felt against the fingers by the usual tests used in ascites, yet the patient sometimes observes that he has the sensation as if water were contained in the chest, passing from one side to the other on turning, or as if the heart were moving in a fluid."

The natural functions are variously disordered in the progress of hydrothorax; the appetite and digestion are sometimes impaired; the tongue foul and furred; and the bowels are various, but generally bound. The pressure of the water on the œsophagus has sometimes occasioned a distressing difficulty of swallowing.

Stupor and drowsiness are not uncommon attendants. In a few instances delirium, and even mania has been observed. The blood is dark; the crassamentum is loose and soft, the proportion of serum large, and the inflammatory buff is rarely if ever to be seen upon it.

> "Every part of the body shews, in a striking manner, the effect of this morbid change of the solids and fluids. Not only those parts the most distant, but the nearest to the heart, feel the influence of a languid and irregular circulation of dark venous blood. The whole surface is cold and chilly, except under the circumstances mentioned above, when profuse sweats break out on the upper parts of the body; the natural perspiration is diminished, and sweat is with difficulty excited by sudorific medicines."

The progress of hydrothorax to a fatal termination, is, it is remarked—

> "Regular and uniform, when art has not interposed her salutary aid; and this has been too generally the case under medical treatment, in so much that it is numbered among the incurable diseases by most medical writers. In consequence of the increased pressure of the accumulated fluid on the heart and lungs, the patient may be said to be suffocated; or he dies apoplectic, from the pressure of dark venous blood on the brain, not unfrequently accompanied with serous effusion, either on its surface or in its ventricles; so that death in this disease is sometimes analogous to that from drowning or hanging. The fatal event is generally sudden, and sometimes unexpected, probably when there appeared to be a momentary interval of repose, frequently during, or after a meal, or any sudden bodily exertion."

The precise seat of the fluid, in hydrothorax, it is not always easy to determine, and more especially, it has been found difficult to ascertain those symptoms which are peculiarly indicative of dropsy of the pericardium. In his second chapter, our author, after reviewing the observations and opinions of Morgagni, Bonetus, Stalpart, Senac, and other celebrated writers, and shewing that there is no certain criterion in the presence or absence of any particular symptom, by which we can ascertain the existence of water in the pericardium, advances the following observations as worthy of attention, and affording data on which a tolerably correct diagnosis may frequently be formed:

> "In genuine dropsy of the pericardium, the breathing is generally less affected in all positions and circumstances of the body; and it is more of the quick, hurried, anxious, than of the slow laborious kind: in other respects there are some peculiarities. Though the recumbent posture be borne with less inconvenience, yet if the pericardium be much distended,

and the other cavities contain but little, or be entirely free from water, a sensation as if something were rolling in the breast, in the region of the heart, is perceived on turning from one side to the other, together with an increased difficulty of breathing, and a sense of weight, on attempting to lie on either, especially the right.

" The erect position too is no less irksome, owing to the pressure and *bearing down pain* of the distended pericardium on the diaphragm, to relieve which the patient is obliged to sit up, or walk, with his body bent forward, or stooping. The greatest ease is in such cases experienced lying on the back, with the shoulders elevated and the body inclining to the left side; this indeed will be found the easiest position in every stage of the disease.

" The palpitation of the heart, though probably more constant is less violent, and less distinctly felt, being of the weak fluttering kind; and this circumstance, added to the more remarkable variations observed in this respect on change of position, may serve to account in some degree for the great difference of opinion in medical writings in regard to its presence or absence.

" The peculiarities of the pulse are still more striking: it is softer, more feeble, frequent, irregular and tremulous, without those occasional intermissions, now and then succeeded by a few regular and full strokes of the artery, mentioned as occurring in hydrothorax. It will be obvious, however, that the palpitation and pulse will vary according to the stage of the disease or the quantity of water contained in the pericardium.

" The peculiar sense of sinking, fainting, anxiety, or constriction, will be more constant, and referred more immediately to the seat of the heart.

" The countenance is more of the pale, sallow, than of the livid hue; and the bodily strength is not only more impaired, but there is reason to believe, those of a weak delicate frame are more liable to it than those of strong robust constitutions.

" With respect to the swelling of the ancles, defective secretion of urine, coldness of the extremities, and other deviations from the healthy state, mentioned as common to hydrothorax, experience does not warrant our reliance on any symptom which does not occur in the one as well as in the other.

" And it is here to be lamented, that the various morbid alterations of structure of the heart itself, of its valves, large vessels, or other organs within the cavity of the chest, with which these two diseases are generally connected, and by which they are often produced, render the diagnosis much more difficult, since the symptoms peculiar to each of these will be obscured by being blended together."

Anasarca of the lungs is regarded as a rare occurrence, as a primary disease; but when it does occur, Dr M. observes, it may be readily distinguished by the swelling of the face, neck, of one or both hands, especially if these quickly succeed to this difficulty of breathing; by the slow laborious respiration, increased on first lying down in bed, and on first getting up in the morning. The disease is sometimes combined with hydrothorax.

The diagnosis, prognosis, and causes, are next discussed, in separate chapters.

The circumstances which portend a highly dangerous disease, and, in general, a fatal issue, are thus summed up:

"1. Palpitations of the heart, steady and constant, appearing early, not subsiding on rest, or on the evacuation of the water, together with a pulse in every way corresponding.

"2. Dyspnœa, or orthopnœa, continuing, with more or less violence, under similar circumstances, and threatening suffocation on attempting to lie down, or on any sudden motion.

"3. Severe pains of the chest, especially about the seat of the heart, or in the direction of the large arterial trunks, and continuing with little or no intermission.

"4. The disease suddenly supervening to pneumonia, or other acute inflammatory affections of the chest, particularly if these have been neglected in the beginning, or if immoderate bleedings or drastic purgatives have been used in their advanced stages.

"5. The disease coming on in constitutions previously exhausted by intemperance, especially by a constant career of tipling or dram-drinking; by the long-continued operation of the depressing passions; in very advanced periods of life; or from extreme bodily weakness or exhaustion in any age.

"6. Scirrhous enlargements, or irregular knotty indurations of the liver, with confirmed jaundice.

"7. Distortion or malformation of the chest."

"When the disease commences its attacks under circumstances the reverse of those mentioned; when there is no reason to apprehend the presence of visceral affection of any magnitude; and when all the unpleasant symptoms gradually recede as the medicines begin to act upon the kidneys, we may venture to hold forth sanguine hopes of a happy issue, provided the treatment be directed by skill and judgment, and pursued with unremitting attention for a due length of time."

Of the predisponent causes, the first noticed is sex, and it is stated, that, of eighty-one cases, which occurred in the author's practice, forty-six were males, and thirty-five were females.

No age seems altogether exempt from the disease, but the chief subjects of it are those advanced in age. Of all the circumstances predisposing to this dropsy, it appears to our author, that a short thick make, with a natural disposition to corpulency, is the most striking.

We find nothing remarkable in the enumeration of the occasional causes, except the abuse of malt liquor; and the author is so pleased with being the first to have noticed this, (justly or not we cannot pretend to say) that he honours it with a separate section. "That by far the greater number of cases of this disease which occurred in my practice, especially among males, had their origin in the free indulgence in porter and ale, is an undoubted

doubted fact." This fact most likely is very correct. The abuse of intoxicating draughts of any kind is an acknowledged cause of dropsy; and we know that whisky-drinkers, gin and brandy-drinkers, and wine-drinkers, are not exempt from it. But ale and porter, Dr M. tells us, have, besides the properties common to intoxicating drinks, others peculiar to themselves. They produce obesity and corpulency, lax and flabby solids, and, says he, a dark, rich, thick blood, that seems to possess comparatively little stimulant properties, and to circulate with less freedom through the capillaries. The effects of this are seen in the increased secretion of bronchial mucus, the habitual cough, expectoration, and dyspnœa, to which your malt-drinkers are subject. They labour under constant predisposition of disease, and their colds, catarrhs, and peripneumonies, are excited by the slightest causes, and often lead to watery effusion.

The author, in his next section, entitled pathology, proximate cause, &c. enters into a long examination of Dr Darwin's theory of retrograde action of the absorbents, which, of course, he refutes, and, we must allow, with great force of argument. He then engages in some speculations on the functions of the liver, which we do not profess thoroughly to understand: the amount, however, is, that the ancients saw farther into this subject than we do, and that without obstruction, enlargement, or mechanical obstruction to absorption, there is a close connection between morbid function of the liver and dropsical complaints. "When the function of the liver is so far impaired, by whatever cause, that undue quantities of the bile are conveyed to the blood, the urinary secretion and lymphatic absorption appear always to be more or less diminished, and there is a corresponding tendency to dropsy;" and so forth.

Of all the parts, however, of this inquiry, the cure is that on which our author seems most to applaud himself. He very dexterously begins by lamenting that little is to be found of any value, or worthy of being recorded, on this most important part of the cure; and that the disease has been uniformly regarded as incurable by the moderns as well as by the ancients. Now, if by the cure be meant the evacuation of the accumulated water, and relief of all the symptoms, every modern practitioner knows, that this is very often to be accomplished. And those who are acquainted with the organic lesions, so often co-existing with hydrothorax, will not be surprised that a permanent cure cannot, in a great proportion of cases, be established; although the dropsy may be again and again removed, by medicines evacuating the water by the kidneys. That these remedies cannot, with certainty, be depended on, is a melancholy truth; and we should most truly rejoice if Dr Maclean had mended the matter. "If" says he, "I be not deceived by that self-approbation which has imposed on thousands, I have advanced some steps in obviating these, by means of the combination which is mentioned in this chapter. Besides evacuating the water more speedily, and with much greater certainty, the bodily strength is not only at the same time preserved, nay, often immediately improved, but the cause of the disease is likewise frequently removed."

Reader! what are these mighty discoveries of combination? Those all of us have employed; combinations of two or more diuretics, of digitalis with the crystals of tartar, or with nitre, or kali acetatum with mercury, or with squills; and combinations of such diuretics, with tonic medicines, and appropriate regimen!

But we must follow Dr Maclean through the progress of his discoveries. The first step was *his* discovery that digitalis exerted no action on the kidneys, and that, as a successful agent in dropsy, its effects were confined to the absorbents.

> "I have long adopted the opinion, and not on light grounds, that this herb excited no specific diuretic action on the kidneys; but since the contrary is, I believe, generally maintained, and since it may seem paradoxical to deny such powers to a substance which sometimes, without the aid of any other, removes dropsical swellings of considerable size and extent, in the course of a few hours, by increasing the urinary secretion in proportion, it may be necessary to point out the reasons which gave rise to it."

Now, the contrary opinion to this is so far from being generally maintained, that we may venture to assert, without fear of contradiction, that it is the prevailing doctrine now taught. And Dr Maclean might have saved himself the trouble of the proofs of it; for we all knew before, that the doctrine rested on this plain fact, that the flow of urine is seldom remarkably increased by digitalis, unless in cases of dropsy. Dr Darwin explained the operation of foxglove as stimulating into direct action the cellular lymphatics. Dr Drake and Dr Fowler perceived, and distinctly stated it as their opinion, that digitalis lessened the force of the circulation, and excited the action of the absorbents.

The effects of digitalis, when taken into the stomach, are, it is said in one of the most common elementary works

1. To diminish the frequency of the pulse.
2. To diminish the irritability of the system.
3. To increase the action of the absorbents.

And yet the only hint of a similar opinion being entertained by any other person, which Dr Maclean has met with, is that of Professor Hecker of Erfurt.

Having then discovered that digitalis has no action on the kidneys, the next discovery was, that there is a material difference in the modus operandi of diuretics, insomuch that there appear just grounds for dividing them into three different classes, namely.

1. Such as act chiefly, if not solely on the kidneys, as nitre, especially when largely diluted.

2. Such as act at the same time on the kidneys, the absorbents, the exhalents, and other secretions and excretions. To this class belong the fixed alkalis, the crystals of tartar, other neutral salts, vegetable acids, squills, resins, and resinous balsams.

3. Such as act solely on the absorbents; as digitalis.

Now, we are prepared for the mighty inference and important discovery, that advantage may be expected from combining the powers of these different classes, in a disease where the functions of both absorbents and kidneys seem impaired; "that by blending and combining these, according to their known specific powers, so that only such parts may be acted upon as are more immediately diseased, the wished-for end is much more likely to be answered, than if separately administered, when they are partially applied, and probably not to the organ which most needs their aid."

"Hitherto" he again tells us, "in administering diuretic remedies, the only object which the practitioner had in view was to stimulate the kidneys; but the most active of these have been found inadequate to the purpose of carrying off the water, although there was ample proof of these organs being fully acted upon."

In conducting the cure, however, our author says, *he* has aimed at much higher views, and that, by his various combinations, the water will often be speedily evacuated without any unpleasant, sometimes without any sensible effects, on the habit; when any of their constituent ingredients, even in the largest doses, will completely fail. We do not doubt it. But are our practical readers ignorant of this, or have they never ventured on such combinations? Yes, says our author, but you have done so "at random, and directed by no fixed principles," and therefore the result has not been so favourable as might otherwise have happened.

By these strictures, it is far from our intention to undervalue the opinions, views, and practices, of Dr Maclean; all of which, on the contrary, we very highly approve;—but we would be understood to deprecate the wish so anxiously displayed to appropriate, as discoveries, opinions and views, long since afloat in the medical world. This, indeed, appears to be Dr Maclean's foible. Contrary to the generally received opinion, he informs us, that he had, for several years, adopted the idea, that the action of inflamed vessels was invariably diminished, while that of the heart and arterial trunks was increased, or unaffected. But Professor Duncan awaked him, it seems, from his dream of originality, by informing him, that the hypothesis belonged to another. And in another note, we find him announcing, as something new, the utility of the precipitated oxyd, or carbonate rather, of iron, and even giving us a receipt for its preparation.

But to return to those combinations of diuretics, the application of which, we acknowledge, Dr Maclean has given with original precision, and which we sincerely hope, may be found equally manageable and efficacious, in the hands of other physicians, who have hitherto prescribed them "at random, and directed by no fixed principles."

> "If the patient be far advanced in years, and his strength much exhausted by intemperance, especially in early life, and there be reason to apprehend disease of the liver, or some other important viscus, a remedy should be selected of such combined powers as might answer all these indications at once. A combination of foxglove, certain tonics, saline diuretics, and calomel in moderate doses, will be found the best in such cases.
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> "But if the disease occur in delicate subjects of either sex, endowed with a high degree of sensibility and irritability, with a soft smooth thin skin, a white shining, or transparent appearance of the anasarcous swellings, if there be any, readily pitting on pressure, more especially in females from frequent parturition, profuse uterine hæmorrhages, or similar debilitating causes, without any organic affection, the digitalis alone will generally succeed; but its salutary effects will be greatly promoted by mild tonics, steel in particular, and moderate doses of the fixed vegetable alkaline salts. Calomel, squills, and the crystals of tartar, if at all admissible, must be administered with extreme caution, and in very small doses.
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> "But when it happens in fat corpulent subjects, of a dull phlegmatic habit, and sluggish inirritable fibre, with hard anasarcous swellings, of a livid hue, yielding reluctantly to, and not retaining, the impression of the fingers, especially if they had indulged freely in the use of porter and beer, such a combination as will produce the most extensive operation on the habit should be prescribed. The foxglove, calomel, crystals of tartar, and squills, must be administered in full doses. Tonics will, in general, do no good in the beginning; they even sometimes do harm; nor is the digitalis to be depended upon without the aid of the other remedies.
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> "*By proceeding agreeably to these principles, the advantages are incalculable.* Instead of losing bodily vigour, my patients have repeatedly

declared, and it was very visible to others, that the appetite and general strength improved almost from the moment of beginning medicine. Such, indeed, wast he rapidity with which some were unloaded of the water, that from the sudden depletion, and want of pressure, on the lungs, heart, and large vessels, precautions were absolutely necessary to prevent syncope; and some expressed serious alarm, to use their own words, "lest they should be drained to death."

Having concluded these more general observations on the cure, our author proceeds to give a more detailed account of the uses of particular remedies; of blisters, digitalis, squills, saline diuretics, æthers, resins, laxatives, calomel, and other preparations of mercury, blood-letting, tonics, and regimen. His observations on all these remedies, their particular uses, and the modes of administering them, are meritorious enough. We have, ourselves, a very high opinion of the efficacy of mercury, and yet Dr Maclean has convinced us that our faith might be exceeded. "Such" he observes, "seems to be its extraordinary power over organic affections of almost every description, that I have had strong grounds for believing ossifications of the valves of the heart have been considerably relieved, or checked in their progress, if not removed by it."

The next section in the order is entitled, "Conjectures and observations on the mode of operation of Foxglove." Here, after citing the unsettled and contradictory opinions of physicians on this subject, Dr Maclean undertakes to set them right. Its general effects on the system shew, he thinks, that digitalis is a directly sedative medicine. It diminishes the action of the heart and arteries, by a sedative operation, and as a sedative too, it *excites* the action of the absorbents. "The digitalis exerts no specific stimulant operation on the kidneys, stomach, bowels, salivary or mucous glands, or on any other part of the body." "Consequently, it restores the lost or impaired functions of the absorbents, and places them in a condition of taking up the fluids effused in cavities, by direct sedative operation." We have had our surfeit of metaphysics, for which we had once a relish, and we have imbibed a particular aversion for medical metaphysics, and have more than once been sickened with digitalis, otherwise we might venture once more to chop logic with Dr Maclean, by shewing the absurdity and rashness of what he holds to be an indispensable principle: "That any substance which proves sedative or stimulant, at one time, in any given dose, or on any one part of the body, must do the same at all times, in all doses, on every part of the body, under similar circumstances." But for the words sedative, and stimulant, Dr Maclean may, for his own amusement, substitute the words purgative and emetic, and then weigh the consequences. Or if the principle be indispensable, and Dr Maclean's reasoning correct, we submit to him an argument, at least as good as his own. The digitalis does exert seemingly contradictory and opposite effects, on different parts of the system. It diminishes the action of the heart, and arteries; it is therefore, says Dr Maclean, sedative; and must, at all times, and on every part of the body, and even on the absorbents which it excites, have a sedative operation. Now for the reviewers' argument. The digitalis does excite the absorbents to increased action, which is a stimulant effect, and therefore it must at all times, in all doses, and on every part of the body, even on the heart and arteries, whose action it seems to lessen, have a stimulant operation.

With regard to the salutary powers of digitalis in other diseases, Dr Maclean states, that subsequent experience has corrected the high expectation he had formed of its efficacy in phthisis; that, in the influenza of 1802, he had prescribed it extensively, and with the most beneficial results, and particularly in the secondary stages of the complaint; that, in chronic affections of the lungs, in asthma, chronic catarrh, and dyspnœa senilis, it will not only be found beneficial in relieving present symptoms, but in preventing remote evil, namely serous effusion; that, in spasmodic asthma, and in hooping-cough, it has been productive of no material or lasting benefit; that it is, however, an excellent remedy in the secondary stages of measles, and that in hæmorrhage, and in acute rheumatism, its powers have been long established, particularly on the authority of the practitioners of Manchester.

As inordinate corpulency, concurring with a thick short make, has been pointed out by Dr Maclean as one of the most frequent and powerful predisposing causes of hydrothorax, so he has thought it necessary to close his inquiry with a chapter on polysarcia, in which the causes and means of counteracting it are pointed out. He has also added some remarkable histories of enormous corpulence; of Mr John Love, a Weymouth bookseller, who died at the age of 41, his weight amounting to 26 stone; of Mr Thomas Wood, the miller of Billericay in Essex; of Bright, a grocer of Maldon in Essex, who, at 20 years of age, weighed 24 stone, and died at the early age of 30, having acquired the enormous weight of 44 stone; and of the still better known Mr Daniel Lambert, who weighed 52 stone 11 pounds.

The first appendix exhibits histories of near one hundred cases, which had been treated by, or seen by the author. The second appendix contains cases and dissections, extracted from *Morgagni*, Valsalva, and others.

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II.

An Address delivered to the Lincolnshire Benevolent Medical Society, at their Anniversary Meeting in 1809; *containing an Account of the proceedings lately adopted to improve Medical Science, and an Exposition of the intended Act, for regulating Medical Education and Practice. To which is added an Appendix.* By EDWARD HARRISON, M. D. F. R. A. S. Edinburgh, &c. published at the unanimous request of the Meeting. London, 8vo. pp. 105. 1810.

IN the second volume of our Journal, we have given an account of the proceedings of an association for medical reform; and, in the same volume, one of our correspondents favoured us with some remarks on the plan proposed for correcting the abuses which prevail in the practice of medicine, and for procuring the assistance of the legislature, for enforcing the regulations which were suggested. Dr Harrison, in the present address, takes up the discussion of the subject where the association left it in 1806, and he explains the different stages of the business, till he brings it down to the eventful period of its being laid before parliament, which will probably be during next session, unless some more important reform should occupy all the attention of the honourable house. The thanks of the profession at large are unquestionably due to Dr Harrison, for his unwearied endeavours to improve the practice of physic; and it is to be lamented that he has not met among his coadjutors with that profound reflection and those comprehensive views which are essential to the accomplishment of so great an undertaking. The royal colleges of physicians and surgeons in London, behaved in a rude and selfish manner to the pacific overtures made to them by the associated reformers; they deigned not to give any satisfactory reply to the letters sent to their royal bodies. As there is no hope of conciliating the co-operation of these corporations, why not propose at once to repeal and set aside their fusty rusty privileges, and establish a new statute, upon the general basis of that of Henry VIII.?—But let us inquire, which is the plan of reform to be brought before the house of commons next session?—A bill is to be proposed to parliament, which leaves all former acts and privileges unrepealed and untouched.

> " In order to reduce the shoals of empirics to some order, and place them under an impartial tribunal, it is directed in the bill, that such as cannot *obtain certificates* from three or more magistrates assembled in

sessions, are to be immediately suppressed, and, as the remainder die away, their places are to be supplied by responsible persons. With a view to correct other abuses, it is proposed that no unadmitted practitioner shall be suffered to act as a physician, unless he be a graduate of some university. Surgeons must possess a diploma from a college of surgeons. Apothecaries are to submit to a five years apprenticeship. Accoucheurs to be physicians, surgeons, or apothecaries who have spent twelve months in the study and practice of midwifery. To instruction *is* (are) to be added in all cases strict examinations, and the names, with the titles of the Faculty, are to be annually published in a register. Such are the leading features of the proposed bill, which differs in several particulars from the 'outlines' formerly published.—Dr HARRISON's *Circular Letter. Appendix, page* 98.

To schemes of medical reform, of this narrow-minded and little nature, we have never disguised our decided aversion, (vide our review of Dr Beddoes's letter, Vol. IV.) If the sale of quack or patent-medicines be not abolished, there can be no effectual reform; and if three or four country boobies, acting as magistrates, are to decide upon the qualification of any ignorant fellow who asks them for a diploma to enable him to sell his pills or cure the toothach, what is it but to confirm and establish quackery by the sanction of the law? Compare the state of the clergy with the methodist preachers at this time, and then think of the resemblance of their real condition and that to which such an act as this would reduce the medical profession. We may see by an intuitive glance the evils which would flow from parliamentary interference, if quacks and their practices are to be licensed by magistrates, instead of being driven, as they ought to be, by common consent, from society, with scorn and detestation. It requires no logic to convince us, that if another chartered company of physicians be erected, the two will be always quarrelling and persecuting each other. The provisions of the act have an invincible tendency to generate intolerance; and if we see in modern times but little of this spirit among the Faculty, it arises happily from the want of power. What must be deemed romantic are the effects ascribed to this reform. Were the proposed regulations of such sure efficacy in actual life, who would not be an advocate for medical reform? The evils which it is designed to remove, lie deeper than the remedy can reach; the great mass of unenlightened people may be regarded as favourable to quackery, and time and education alone can reform the imperfections in medicine, as well as in philosophy itself.

III.

III.

A Letter to Henry Cline, Esq. on Imperfect Developements of the Faculties, Mental and Moral, as well as Constitutional and Organic; and on the Treatment of Impediments of Speech. By JOHN THELWALL, Esq. Professor of the Science and Practice of Elocution. 8vo. London. 1810.

A LETTER addressed to Mr Cline is more likely to be wondered at than read. The readers fond of inquiry, who used to catch at every new opportunity of being instructed, have been so often disappointed in this way, that they are ready to resist every thing in the shape of an essay or a letter, and the title-pages of authors have become in their eyes almost as valuable as the promises of courtiers. In fact, almost every book is made a prospectus, and that prospectus is most likely to succeed which is associated with some celebrated and catching name. This letter of Mr Thelwall proves to be like the generality of its species, very full of promises of all sorts of benefits to be derived from his principles of instruction, very loud in praise of his own industry and genius, and very profound in his researches and style. We have nothing to do with the badness of the style, the self-applause, or the poetry; our researches are after facts, connected with diseases of the body and the mind; and gladly do we embrace the present opportunity of calling the attention of our profession to a much neglected class of morbid phenomena. The little regard which is paid to impediments of speech is no little proof of the ignorance and indifference respecting them, and Mr Thelwall has rendered a service to society by studying the causes of these complaints so assiduously that he is said to be enabled to cure them. He has established a school in London for the cure of all impediments of speech, not connected with total loss of hearing, and report speaks favourably of his success. The practical management of these impediments constitutes, according to his own expression, " the glory of his art;" and he seems to consider himself much indebted to Mr Cline for directing his ideas to the anatomical and physiological structure of the organs of the voice, which led him to the discovery of the true method of conquering the difficulty of enunciation.

Stammering and stuttering do not arise from any defect of organization: they appear to arise from an interruption or want of precision in the associated actions of the organs of speech.

If such impediments were really dependent upon organic or constitutional defects, they would always affect the voice, which is not the case, as in singing or reading aloud. Persons who stammer very distressingly in conversation, can sing, and sometimes read aloud without any hesitation. Mr Thelwall considers all cases of impediment as complicated with mental and moral causes, with very few exceptions, which clearly and obviously arise out of palpable imperfections or deficiences of the organs. Such are the impediments which result from the hare-lip, from fissure of the roof of the mouth, obliteration of the uvula and velum palati; loss or ill position of the front teeth, original constriction of the tongue, or excessive separation of that organ. Constriction of the tongue is rarely a cause of impediment in speaking; consequently the division of the frenum in infants is condemned by Mr Thelwall, and its mischievous effects are pointed out. In some cases that operation is required; but it is never necessary, Dr Denman says, for the alleged purposes of nutrition; and never proper, Mr Thelwall adds, for any other purpose during the season of early childhood.

" Nothing is more common (says Mr T.) than to hear talk of nervous impediments, constitutional impediments, and hereditary impediments: [I have two hereditary impediments at this time in my house; one of them has lineally descended, both in the maternal and paternal line, to the third generation, though I have fortunately pretty nearly completed the process of cutting off the entail.] By all these fine words the idea necessarily meant to be conveyed, is, I presume—that such impediments are the result of an excessive delicacy and irritability in the constitutional fibre: in other words, that they are physical consequences of mere physical causes. Yet many persons who have equal irritability of fibre and delicacy of constitution, have no impediment: and many persons also have impediments of the same, or very similar descriptions, who have otherwise no mark or semblance of such constitutional defect. This nervousness, then, and this debility, are not the sole, the necessary, or the immediate causes of such impediments. I admit, however, that they are partial and predisposing causes; that certain habits of constitution are more subject to this, as they are to many other maladies and infections; nay, that these physical causes have even an influence not inconsiderable, upon those mental and moral causes which I conceive to be the principal sources of impediments of speech; as also of many other species of derangement and non-developement of the organic faculties."—page 56-7."

In another passage of this letter Mr Thelwall appears to carry his notion of the influence of moral causes to an unwarrantable length, when he asserts,—

" That all impediments, that are not the pure and simple results of organic malconformation, have at least a certain degree of affinity with one *or other* of these mental affections—(idiocy and derangement); that every stammerer, stutterer, throttler, constipator, involuntary confounder, and unconscious reiterator of the elements of speech, (whatever attainments or faculties he may in other respects possess) is *partially*, and to a certain extent, either idiotic or deranged!"—page 68.

All this is magnificent in words; but the reader has only to recollect those persons within the circle of his own acquaintance who stammer and hesitate, or enumerate the literary characters who were subject to impediments of speech, and he will soon be convinced of the absurdity of the assertion. The distance between chorea (to which stammering bears the nearest resemblance) and mental derangement is very great, and must be obvious to any one accustomed to observe the varieties of madness.

The art of curing these defects in speaking is said to have been discovered by the author of the work before us. Send the patient to the institution in Bedford-place—is the answer, then, which should be given to the inquiries of anxious parents who ask, what is to be done for their stammering children? A professor may do a great deal to remove so disagreeable an habit; and when once the pupil is instructed in the rules of utterance, and has confidence and attention enough inspired, to adhere strictly to those rules, the difficulties will soon be overcome. Many people have cured themselves by unremitted care and attention; others have been cured by going to a proper school, and by going abroad into a country where they were obliged to speak a foreign language, which required deliberation and caution. It is a mistaken notion that impediments of speech require the same treatment as the deaf and dumb—the plan of instruction is essentially different, many of the processes requisite for the one would be useless and destructive to the other.

Several letters, written by Mr Gough, are republished in this volume; they abound, like the other productions of that very ingenious man, in philosophical views, and are enriched with curious and interesting facts.

IV.

Cursory Remarks on Corpulence. By a Member of the Royal College of Surgeons. London, 1810.

The purport of these remarks is to enforce Dr Radcliffe's advice, "to keep the eyes open and the mouth shut," as the best rule for preventing excessive corpulence. Last year was the jubilee year, and was distinguished in the annals of grease for having produced the fattest ox and the most corpulent man ever heard of in the history of remarkable occurrences. To do justice to the subject, this author's pamphlet is much too thin. He gives an account of Cornaro, and the miller of Billericay and Lambert, who is a melancholy instance of suffering occasioned by diameter and dimension. A remarkable contrast to these cases is related of a French prisoner of war, who was extremely thin, though the following was his general consumption in one day:

Raw cow's udder, - -	4 lbs.
Raw beef, - - - -	10 lbs.
Candles, - - - -	2 lbs.
	16 lbs.

besides five bottles of porter!—Vide Dr Johnson's letter to Dr Blane, Med. and Phys. Journal, Vol. III. Corpulence is said to be more common in England than in France and Spain, or any other country on the continent, which is probably owing to drinking large quantities of malt liquor. Acids and alkalies, vinegar and soap, are mentioned as the remedies for corpulence, but these have been suggested on the theoretical principles of the times in which the authors lived who advised them. The only method which appears at all likely to prevent people from growing too fat, is to obey Dr Radcliffe's maxim, or to move their legs more and their jaws less than they have been accustomed to do.

V.

Medico-chirurgical Transactions. Published by the Medical and Chirurgical Society of London. Vol. I. London, 1809. pp. 290.

We have delayed the analysis of this volume too long. The institution of societies, where professional gentlemen mutually communicate the results of their observation, is one of the best means of advancing their own knowledge; and the publication of their transactions, contributes materially to the improvement of our science. The first work of this kind undertaken in this kingdom, the Edinburgh Medical Essays, still remains one of the most interesting. The similar collections by which it has been succeeded, are all of them valuable, though certainly in different degrees, according to the attention paid by the publishing committee to the selection of the communications offered. Our own experience has fully instructed us how difficult a task is imposed upon them, and how impossible it is to avoid the opposite charges of too great fastidiousness, and too great facility. By indiscriminate admission, while the size and frequency of the volumes increase the cost, they lose in proportion their interest and value. On the other hand, were all communications to be rejected, which did not either make an absolute addition to our stock of knowledge, or express what was already known in a better form than had ever been done before; we are afraid that many years would elapse before materials for a single volume could be collected. We must be contented with inferior excellencies, and often admit papers which have no recommendation from novelty, provided they are calculated in any way to excite interest, or to disseminate information.

The papers in the volume now before us relate to a great variety of subjects. As might naturally be expected, *anatomy*, neither affording much opportunity for discovery, nor sufficiently recommended by mere novelty of description, occupies but a small number of its pages. There is indeed but one paper in this department, in which Mr James Wilson, the worthy successor of Dr Baillie, describes two triangular muscles surrounding the membranous part of the urethra, and shews that they may sometimes cause a retention of urine, by compressing the urethra in its narrowest part, which, of course, will induce us to persevere, where such a cause is suspected, in the means best calculated to remove the temporary stricture.

On *physiology*, there is also but one paper, that of Dr Bostock on the gelatine of the blood, for an account of which our readers have been already indebted to a very valuable correspondent.

Two remarkable instances of *lusus naturæ* are recorded, in the case of a fœtus contained in the abdomen of a boy, and in the account of a boy in whom unequivocal signs of puberty appeared at the completion of the second year; both of these cases are very minutely described. The first, by George William Young, Esq. resembles, in many respects, that translated in a preceding volume of our Journal, from the first bulletin of the Ecole de Medicine de Paris, and, in conjunction with it, as our author justly observes, " will tend to affix some credibility to similar cases met with in authors." The description of the Infant Hercules by Anthony White, M. B. is no less interesting, and shews that nature, however uniform in general, does not acknowledge fixed and determinate periods for its operations. We trust that Dr White will fulfil his promise of giving us notice, from time to time, of the progress of this singular phenomenon.

Dr Yelloly has given a very elaborate paper on the propagation of nervous influence, suggested by a case of tumor in the brain, about the size of a hazel-nut, lying on, and sunk into the tuberculum annulare, at its posterior part on the left side, extending to the corpus pyramidale of the same, and pressing upon and entirely obscuring the left abductor nerve. In consequence of the pressure occasioned by this tumor, the *left* eye was drawn inwards, though the pupil remained as sensible as usual to light, while the muscles of the *right* side of the body were paralyzed. The chief objects of Dr Y.'s inquiry are, whether there is reason to suppose that nervous energy, in whatever that may consist, is, in its progress to the spinal nerves, confined to the particular side from which those nerves proceed? whether it is subject to any decussation, or whether it is equally dependent, for its propagation, on the whole spinal column? Much still remains to be done before these very obscure questions can be satisfactorily answered; and we agree with our author, that the mode in which nature carries on her operations in the head, seems to be better capable of being explained by phenomena, than by the examination of structure alone. Galen, in a passage which has been misunderstood by Haller, has said, that where the spinal marrow was divided longitudinally, he found that none of the nerves derived from it on either side were paralyzed; and when transverely, that those nerves only were paralyzed which were directly below the part divided on the same side. An experiment performed by Mr Cooper, at the request of our author, is calculated to establish our confidence in the accuracy of Galen.

In a paper on gouty concretions, or chalk-stones, by James Moore, Esq. there are several valuable practical observations; but it is to be regretted, that he should speak of these as chalk and chalky matter, when it is now well known that they consist of *urate of soda.*

The diseases of the heart and sanguiferous system have lately attracted that degree of attention which their importance deserves. We have, in this volume, three papers on the subject. *The first* by Mr Abernethy, describes a diminution in consequence of disease of the area of the aperture by which the left auricle of the heart communicates with the ventricles of the same side, and the symptoms produced by it. Mr Abernethy first met with this disease about sixteen years ago.

"A young man, about nineteen years of age, was admitted into St Bartholomew's hospital, with a disease which had continued to increase for three years. His body and limbs were bulky. The cellular substance beneath the skin seemed tumid, and in some places anasarcous. His legs were anasarcous, even in a considerable degree. His belly was large, and seemed to contain some water, though not sufficient to occasion a perceptible undulation. His face, like the rest of his body, appeared bloated. The skin had everywhere a livid appearance. The veins were slightly turgid. The breathing was frequent and laborious. He had a short cough, but with little expectoration. The pulse was uncommonly small and frequent. The turgid state of the veins, the livid colour, the general œdema, all seemed to indicate some impediment to the circulation of the blood; and the nature and cause of such obstruction became an object of speculation with us. In endeavouring to form an opinion on that subject, the smallness of the pulse led me to believe, that the left ventricle of the heart received and projected into the arteries an unusually small quantity of blood."—p. 28, 29.

The symptoms increased in severity for the course of a month, when the patient died. The appearances on dissection were:

"The cellular substance was everywhere tumid with fluid, and serum was found in all the large cavities of the body. The lungs were dense, their vessels being turgid with blood, and their cells contained much serous fluid. The right cavities of the heart were healthy in appearance, and distended with blood. The left auricle was also filled with blood, and appeared of twice its natural magnitude. The left ventricle was small and empty. On laying open the left auricle, and removing the blood which it contained, I was surprised to find the passage into the ventricle almost closed, apparently by the elevation of the mitral valves, nor could I pass even my little finger from one cavity into the other. On opening the ventricle to examine the communicating aperture more correctly, it was found to be of an elliptical form, and situated between the sides of the two pointed productions of the mitral valve. Its dimensions were not greater than would admit of the passage of a moderate-sized bougie, when compressed and adapted to the form of the aperture. Indeed, the opening appeared to have been in some degree torn and enlarged by the attempt to pass a finger through it. The mitral valve appeared to be a little whiter, and more opake than natural, but not in any degree so much as we frequently meet with it, when no such contraction is produced."—p. 29, 30.

Another case occurred in a woman 38 years of age, of a thin and small form, in whom there was a much greater disease of the valve, and the symptoms connected with it were, (as in the former case) "an extremely small and frequent pulse, a purple tint of the skin, particularly in the face; but there was no œdema;

as in the preceding case. The smallness and frequency of the pulse increased as the disease advanced, so as to render it difficult to feel and count it."

Mr Abernethy is of opinion, that this contraction is not the effect of inflammation alone, but is produced by the action of the heart itself, in consequence of the fleshy columns from the middle of the heart, which terminates in the *chordæ tendineæ* of the mitral valves, becoming morbidly irritable from inflammation, or perhaps other causes.

Mr David Dundas, serjeant-surgeon to his Majesty, has described a different disease of the same organ. We cannot do better than quote his own words.

" There is a disease of the heart, which I apprehend is not very uncommon, no less than nine cases of it having, in the course of thirty-six years, fallen under my care. I have also heard of several other cases, and yet I do not believe any account of it is to be found in any medical author.

" The patient complains of great anxiety and oppression at the præcordia; has generally a short cough, and a difficulty of breathing, which is so much increased by motion or by any exertion, as to occasion an apprehension that a very little additional motion would extinguish life. There is also frequently an acute pain in the region of the heart, but not always.

" The difficulty of breathing is also aggravated by taking even a small quantity of food.

" He prefers lying on his back, complains of great palpitation of the heart, and violent pulsation of the carotid arteries, attended with noise in the ears, and giddiness of the head.

" In some cases I have found the action of the heart so very strong as to be distinctly heard, and to agitate the bed the patient is in so violently, that the pulse of the patient could be counted by looking at the motion of the curtains of the bed.

" The pulse is always very quick, and is often irregular; in some cases it has been weak, but more commonly very hard.

" Towards the conclusion of the disease symptoms of water in the chest take place, the legs become œdematous, and frequently a considerable collection of water is accumulated in the abdomen.

" In all cases which I have seen, this disease has succeeded one or more attacks of rheumatic fever. In one case the affection of the heart appeared at the commencement of the rheumatic fever, and its action was so rapid, that the pulse could not be counted for many days; much difficulty of breathing and oppression, attended with a sense of great debility, took place, and the inflammation, pain, and swelling of the extremities, after having shifted from one joint to another for many weeks, subsided; but the affection of the heart continued, generally attended with great pain, producing in the progress of the disease, and towards its close, a considerable disposition to dropsy, under which the patient lingered for ten months.

"All those I have seen afflicted with this disease were young persons, only two were above twenty-two years of age. Six of them were males, and three females.

"Most of them struggled with the disease for many months. Seven of the nine have died. One I am attending at present, and I think cannot recover; and one is apparently well, having survived the attack four years. He has had no rheumatic affection for two years and a half, but the action of the heart is still very violent, and easily increased by exercise. His recovery is attributed to a very strict adherence, for a long time, to a vegetable and milk diet, and great attention to avoid any considerable exertion.

"Of the seven cases which proved fatal, six have been opened, and all of them agree in the general appearance of the heart. In all the heart was uniformly found to be enlarged, in some the enlargement was much more considerable than in others. In one case water was found in the pericardium, in all the others the pericardium adhered to the heart. The left ventricle, in all the cases, was most enlarged in size, but not in thickness, and in most of them the heart was found of an unusually pale colour, and very soft and tender in its texture."—p. 37-40.

The account of three cases of sudden death, by Mr Chevalier, with the appearances on dissection, describe an affection very different from the preceding. A young lady suddenly complained of being faint; was laid in bed, and supposed to fall asleep, but in twenty minutes was discovered to be dead. An elderly gentleman fell suddenly from his chair, breathed short for a few minutes, and then expired. A lady, after the birth of the second child, in a case of twins, appeared a good deal exhausted, and, as the discharge of blood was very moderate, the accoucheur thought it best to defer the extraction of the placenta; recovered a little; but about two hours afterwards grew suddenly faint, breathed short, and died in about half an hour. In all of these cases, the cause of death appeared, upon dissection, to be the same. The heart and its valves were free from any disease of structure, but in all of them the heart was remarkably flaccid, and entirely empty; and in the second, and still more particularly in the third, the emptiness extended to the vena cava. M. Chevalier has only found two similar cases in authors, but has subjoined two others, in which he thinks this disease was successfully treated by Mr Woodd of Edgware-Road. The following general observations deserve to be generally known, as we are convinced that this is a commoner cause of death than is suspected: at least we lately met with a case exactly resembling the third of our author's.

"The disease I have now described may perhaps be properly termed *asphyxia idiopathica*. The essential circumstances of it evidently denote a sudden loss of power in the vessels, and chiefly in the minuter ones, to propel the blood they have received from the heart. In consequence of which, this organ, after having contracted so as to empty itself, and then dilated again, continues relaxed for want of the return of its accustomed stimulus, and dies in that dilated state.

"But it is remarkable that death was not produced instantaneously in either of these cases. So that it is probable the larger veins continued their office a little while after the attack; and that blood flowed from them for a short time, into the heart; feebly indeed, and in small quantity, but still enough to keep up a little action in it. It is also probable that the debilitated state of the extreme vessels, though sudden and great, was not complete at first; especially in the last of the three cases I have related, and in those quoted from Bonetus and Morgagni: but the action of the heart gradually failing for want of supply, that of the larger arteries would soon fail also, for the same reason, and death must then follow of course.

"The flaccid state of the heart is probably produced by its own vessels partaking of the general debility, and thus inducing an atonic state of its muscular fibres.

"The weakened state of the circulation through the pulmonary vessels will account for the short, or to speak more correctly, the feeble breathing, which commences with the attack, and continues till its termination.

"Although I feel quite unable to account satisfactorily for the first production of such a disease, it nevertheless appears to me that these histories lead to some important practical conclusions. Such as have occurred to myself I shall take the liberty to point out. Others may probably be supplied hereafter by practitioners, who, aware of the nature of the disease, and called in immediately on its commencement, will direct their attention to its various circumstances, more particularly than may hitherto have been done.

"The impropriety of taking away blood in such a case, is, I think sufficiently evident; nor indeed does it seem likely that an attentive practitioner would confound it with any in which that evacuation is called for. The state of the pulse, and particularly of the respiration, would be a sufficient distinction, and clearly point out the necessity of the most prompt and active measures to stimulate the extreme vessels, to accelerate the returning blood, and to excite the nervous energy.

"It would therefore be proper to lay the patient as speedily as possible in the horizontal posture, and to give internally some highly stimulating liquid; as brandy, wine, æther, volatile alkali, &c. and these should be given in a tepid state, lest their coldness, when first swallowed, should retard their salutary influence on the extreme vessels and nerves of the stomach. Spices may also be employed, and in this, as in many other cases, would probably be borne in larger quantities than are commonly exhibited. A scruple of the Pulvis Aromaticus, for example, may be given for a dose. Brisk friction of the surface of the body, and particularly of the extremities, should be employed, and the patient covered with warm blankets, taking care, however, to leave the face open, and on no account to impede the freest possible access of pure air to the lungs. A hot bath might be of use in some instances; and it would probably be more effectual if it were prepared with salt water, or strongly impregnated with some stimulating ingredient, as capsicum, pepper, ginger, &c. But some discretion is certainly requisite in the employment of a hot bath, where great debility prevails, lest the exertion and fatigue attending its use should increase the irritability in too great a proportion, and exhaust the remaining strength.

"A pint or more of camphorated mixture thrown up warm, as an enema, by means of a syringe, might also be of use. Some æther, or tincture of castor, or assafœtida, might perhaps be added with advantage. But in this, as well as in the employment of the warm bath, care must be taken not to over-fatigue the patient; for no debility will be found more insuperable on many occasions, than that arising from fatigue. So that these remedies will perhaps be most useful after something stimulating has been given by the mouth, and is beginning to produce its effect."—p.162-165.

Dr Stanger has detailed a case of violent and obstinate cough cured by three grains of sulphate of iron twice a-day, with myrrh and carbonate of potass, after many other remedies had been tried in vain. The chief circumstance which Dr S. considered as indicating the use of iron in this case, in which there was pain, dyspnœa, great irritability of the lungs, and very little increase of the frequency of respiration, was the slowness of the pulse, when the patient was perfectly at rest; and the success of the treatment supports the justness of the indication.

One of the most singular, and obstinate cases, which ever occurred in our practice, was also a cough. The subject of it was a young lady of great sensibility, but by no means unhealthy. She was very deeply affected by the unexpected death of a friend, to whom she was much attached. The most violent emotions of grief were succeeded by excruciating headachs. As these began in the course of time to give way, they were succeeded by what was at first mistaken for a severe cold. It gradually, however, assumed a very marked and singular character. It was not a loud or noisy cough, but consisted in repeated quick expirations, with violent straining, as if to express the last drop of air contained in the lungs. When she seemed perfectly exhausted, a deep inspiration took place, and the convulsive expirations were repeated as before, and at no time was there any expectoration. These paroxysms came on without any warning, and terminated as suddenly by a full inspiration. They did not seem to be induced by any cause, and they were not interrupted or cut short by any of the various means employed for that purpose. They gradually increased in frequency and length for many months. When worst, the paroxysms would return four times in an hour, and last from nine to twelve minutes. In the intervals, she was in her usual state of health, and she recovered from the exhaustion, from the fatigue of the paroxysms, much sooner than could have been expected from their apparent severity. It was singular, that she never had a paroxysm while asleep, and her sleep was not interrupted by them, having commonly but one in the course of the night, while, during the day, she would have from thirty to forty. Every thing which her various medical attendants could devise, or the officiousness of friends suggest, was tried, without producing any apparent effect on the disease. During the course of it, she, however, passed one entire day without a paroxysm; but they were only exchanged for an insupportable headach. At last, she was invited to visit a friend in Ireland, and as her health was otherwise good, and the disease seemed in some degree kept up by habit, it was hoped that a sea voyage and change of scene might interrupt it, or at least be of use to her in other respects. After embarking, she had one or two paroxysms before bed-time, but her friends who accompanied her, were delighted when she passed the next day without a single fit; and although they were obliged to land at night, and sleep ashore, the disease was completly subdued. She has since repeatedly had common colds, return of her headachs, and various slight illnesses, but no renewal of these dreadful paroxysms of coughing.

Dr Richard Pearson has given, at greater length, an account of the effects of that valuable remedy in hooping-cough, which he first announced to the world in this Journal.

Mr Thomas Blizard has related a case of intussusception, in which part of the ilium, the cæcum, and its appendix, the ascending colon, and transverse flexure, were contained in the sigmoid flexure of the colon, extending into the rectum; and as the inflammation was confined to the intussuscepted parts, it suggested to Mr Blizard the idea, that an union of the ilium might have taken place, and that the child might have recovered, by the separation of the intussuscepted parts. This he thinks the most probable manner of accounting for those cases in which portions of the intestines have been passed by stool.

A very interesting case of hydrophobia is minutely related by Dr Marcet, with the appearances on dissection. Opium, iron, and arsenic, were given in vain to a great extent. On the first attack of the disease, the pain beginning in the part bitten, followed the course of the nerve, and not of the absorbents. The same remark is extended by Dr Marcet to other cases, and he thinks, that from this observation, it follows as a practical conclusion, that where removing or cauterizing the part has been neglected in the first instance, it may still be adviseable to have recourse to it at any subsequent period, previous to the developement of the disease.

The best account, and indeed the only scientific account we have yet seen of the distemper in dogs, is given in this volume by Dr Jenner. It seems to consist in an inflammation of the lungs, and mucous membrane of the bronchiæ. It is highly contagious, affecting the animal but once in the course of its life, and extremely dangerous. We have already more than once spoken of the benefits derived from the study of comparative nosology. In this disease, we have another proof of our opinion, as much distress has frequently been occasioned by mistaking the *distemper* for *hydrophobia.*

Dr Jenner has also given two cases of small-pox communicated to the fœtus in utero, although the mothers, at the time, shewed no appearance of having been affected by variolous contagion, and had passed through the disease at a former period. These cases, connected with others in which the individual has decidedly been twice affected with the small-pox, have led our author "to entertain the opinion, that the susceptibility to receive variolous contagion always remains through life, but under various modifications or gradations, from that point where it passes silently and imperceptibly through the constitution (as is frequently the case with cow-pox) up to that where it appears in a confluent state, and with such violence as to destroy life."

A case in which a young man was saved, after having certainly swallowed *six ounces* of laudanum, is related by Dr Marcet. The most remarkable symptoms were, the stupor and relaxation of all the muscles; and his recovery was owing to the speedy administration of the sulphates of zinc and of copper, in large doses, as emetics, and keeping him in constant motion, by dragging him from room to room, to counteract the torpor.

Dr Babington's account of the effects of the vapour of burning charcoal, is extremely interesting in several points of view, particularly on account of the long continuance of the symptoms, and of the new and active remedies successfully employed.

The *surgical* papers are four in number. In two of them Mr Astley Cooper, with that boldness which is only excusable in a man of real science, conscious of the extent of his own powers, has extended the limits of his art. In two cases of carotid aneurism, he tied the artery; on the second occasion with perfect success, and his failure in the first instance took place under circumstances which proved the practicability of the operation. We extract the following particulars from the second case.

"The dilatation of the carotid artery was seated just below the angle of the jaw, and about the acute angle which is made by the great division of the common carotid. The tumor was about the size of a pullet's egg, and prominent in its middle.

"The pulsation of the aneurism on the day of the operation was remarkably strong; when the sac was emptied by pressure on the artery below, the tumor sprang to its original size with one contraction of the heart.

"I proposed to tie the common carotid below the dilated part, and the operation was performed at one o'clock on the 22d of June 1808, at Guy's Hospital.

"I began my incision opposite the middle of the thyroid cartilage, from the base of the tumor, and extended it to within an inch of the clavicle, on the inner side of the mastoid muscle. On raising the margin of this muscle, the omo-hyoideus could be distinctly seen crossing the sheath of the vessels, and the nervus descendens noni was also exposed. I next separated the mastoid from the omo-hyoideus muscle, and the jugular vein became apparent, which being distended at every expiration, spread itself over the artery. Drawing aside the vein, the par vagum was evident, lying between it and the carotid artery, but a little to its outer side. This nerve was easily avoided.

"A blunt iron probe, constructed for the purpose, was then passed under the artery, carrying a double ligature with it. Two ligatures being thus conveyed under the artery, the lower was immediately tied. I next detached the artery from the surrounding parts, to the extent of an inch above the lower ligature, and then tied the upper. Lastly, a needle and thread were passed through the artery above one ligature and below the other. The division of the artery was then performed.

"Nothing now remained but to dress the patient, and this was done by drawing the parts together, by adhesive straps, the ligatures hanging from each end of the wound, and by laying on a piece of lint, retained by straps of adhesive plaster.

"Mr Vose, my dresser, (whose attention to the case was unremitted, and to whose care and knowledge many of my patients have been indebted for their recovery) now asked the patient if he experienced any unusual sensations about his head. He answered, that for the first time since two months after the formation of the tumor, he was relieved from a distressing pain which extended up the left temple, accompanied by a violent throbbing of all the arteries of that side. This pain never returned.

"The pulsation in the tumor, however, had not entirely ceased, although it was so much diminished as to become obscure."

"*June* 24.—*Six a. m.* Pulse natural; pulsation in the tumor continues; tumor sore when compressed; has become firm, for the blood which was fluid in it prior to the operation, and all yesterday, is now coagulated; pain, and a sense of fulness, felt on the right side of the head.

"*June* 30. Wound dressed the first time, and has united by the first intention as far as the ligatures would permit; he is free from irritation."

"*July* 17. Man walked out of his ward; the tumor at this period was reduced to less than half its size. The pulsation in it was with difficulty perceived; but it continued until the beginning of September, at which period all who saw him agreed that the pulsation had ceased, and the tumor was then scarcely apparent. The fascial and temporal arteries on the left side cannot be felt.

"The wound was a long time in healing, first from a sinus in the course of the ligatures, and afterwards from a fungus where the sinus had been placed.

"The man was discharged cured, on the 14th day of September, and returned to the occupation of a porter at Crawshay's iron wharf, Thames-street.

"The result of this case afforded me a degree of pleasure which compensated for the disappointment I felt in the issue of the former. In a professional point of view, it was highly desirable to ascertain the possibity of saving life in a case which had hitherto proved generally fatal; and I could not but feel more than common interest in the fate of a man, who, although he well knew that the trial was new, and the risk considerable, never betrayed the smallest signs of apprehension.

"Near eight months have now elapsed since the operation was performed, and he has returned to his former employment without any diminution of his mental or corporeal powers, excepting the lessened action of the temporal and fascial arteries on the side in which he was operated. The tumor has disappeared, and he has not been since subject to that pain in the head, by which he had been so much distressed prior to the operation.

"This aneurism, from the depth of its situation, was, I believe, seated in the internal carotid artery, and this led me to hope that the regurgitation of the blood, although at first sufficient to produce a slight pulsation in the tumor, would not continue to support its growth, because as the internal carotid passes through a foramen in the skull, a little above the swelling, it could not dilate at that part to bring down any additional quantity of blood into the sac; so that its first effect was likely to be as great as any it could produce. But if the aneurism had been of the external carotid artery, owing to the number of communicating vessels, I should not have been equally sanguine in my expectation that the pulsation would have ceased, as I have known two instances, one of a wounded radial artery, and the other of aneurism of the interior tibial, in which the tumor continued to grow by anastomosis, after the arteries had been tied above the swellings."

Mr Thompson Foster has detailed an unsuccessful case of lithotomy, to which he has subjoined some practical conclusions, which deserve to be known.

"From the foregoing history of this case, and from studying the morbid appearances, some useful observations are deducible, that may tend to strengthen the judgment of the young practitioner, and assist him in forming his opinion, and in reasoning from the symptoms up to their causes.

"To elucidate this more clearly, it may not be improper to make a short recapitulation of some of the leading symptoms. In the first place, the unusual susceptibility to inflammatory action, that shewed itself so often over the whole belly, is a symptom not very frequent, and when it does occur, is rarely overcome; moreover, it appears from this case, that each succeeding inflammatory attack made such havock in the constitution, as to bring on worse symptoms, and increased debility. Therefore, when so alarming a symptom has clearly manifested itself, with all its train of consequences, and when the primary cause has decidedly been found to be a stone in the bladder, I should be inclined to allow but a short time for a trial of the powers of medicine to strengthen the habit, and to allay such irritation, but should propose the operation at an early period, while the bladder retained its power of acting on its contents. I am aware that this would be to perform the operation under very unfavourable circumstances, yet the case before us sufficiently shews, that there is no reason to expect any amendment can take place, whilst the original cause of the mischief remains; and it may also be observed, that in such instances, each succeeding fit renders the bladder more likely to be deprived of its muscular powers; and when such an event has actually taken place, great doubts may arise as to the propriety of venturing on the operation at all. For if the immediate cause of this privation of action should proceed either from local paralysis, or from the deposit of coagulable lymph, great impediments in either case will probably arise to obstruct the progress of healing, if not to subvert its first principles; should it arise from the former cause, the want of nervous energy might leave the wound in *statu quo*, till nature were quite exhausted; and if from the latter (that is from the deposit of coagulable lymph), the muscular fibres of the bladder might be completely blocked up by such an accumulation, and the process of healing would of course be greatly impeded by this mechanical pressure, so that, though the first principles of the healing process might not be destroyed, they would be at least so far weakened, as to leave great doubts of their possessing sufficient power to shoot forth the new substance necessary to complete the healing of the parts.

" In the preparation before us, we see the thickened coats of the bladder, with deposits of coagulable lymph, which must have accumulated from each successive inflammatory attack; and it seems probable, that the adhesions of calcareous matter took place, by the coagulable lymph being thrown out on its inner surface, in some of the inflammations that occurred prior to the severe one, which deprived the bladder of its power of action, as, in the first passing the sound, it seemed to strike against stoney matter on both its sides, in some degree, as if wedged in between two stones.

" From this view of the case, it would seem, that after the inability of the bladder to act upon its contents has shewn itself, a very different practice must follow, from that where the bladder possesses its powers of expulsion and retention; in cases where these remain, I have recommended proceeding early to the operation, for the reasons I have given, but in cases where the bladder has lost those powers, I do not think the operation advisable, or that it would be attended with success.

" I must acknowledge, that my reflections on this case have influenced my practice, and I have since cut, at an early period, one patient, in whom the extreme tendency to extensive inflammatory action shewed itself, nearly in as great a degree as in the instance I have related; the inflammation from the operation was considerable, but it was moderated by the usual remedies in a few days, and in five weeks the patient was perfectly well.

"Since that time I have refused to cut two patients, where the debility was considerable, and where the action of the bladder was entirely lost."

The case of artificial distension of the urethra in a lady, by means of a sponge tent, and of the rectum in a gentleman, by Mr Thomas, are instructive in shewing the facility with which distension of sphincter muscles to a very great degree may be produced. He has quoted some similar cases from older authors, but we trust that the following extract from Prosper Alpinus * will not be thought superfluous.

"Eo tempore, quo ego in Aegypto moram faciebam, Arabs quidam Haly vocatus ad extrahendos lapides sine incisione celeberrimus erat, quem ego sane cuidam duci Turcarum Horam Bei vocato multos lapides extraxisse vidi. Quo in opere absolvendo ille ligneam cannulam accipiebat, longitudine octo digitorum, et latitudine digiti policis, Quam colis canali admovebat, fortiterque, insufflabat, atque ne flatus ad interiora perveniret, altera manu extremum pudendi perstringebat, foramen deinde cannulæ claudebat, ut virgam canalis intumesceret, et latior fieret, ac appareret. Quo facto minister digito in ano posito, lapidem paulatim ad canalem virgæ, atque in ejus extremum deducebat. Qui ubi præputio lapidem appropinquasse sentiebat, cannulam à virgæ canali fortiter impetuque amovebat, ut magna dexteritate lapis ad nuclei olivæ magnitudinem fuerit extractus, et ego interfui huic duci Turcarum, et postea duobus item Judeis, quorum alter puer erat, cui octo lapillos extraxit, et alter adultus, cui extraxit lapidem ad magnæ olivæ magnitudinem. Hicque est extrahendi lapidem e vesica modus, quo utebatur ille medicus Arabs. Audivi tamen alios etiam ibi esse, qui alio etiam modo lapidem extrahebant, quem modum nunquam ab aliquo, quandiu Cayrum habitaverim, potui cognoscere. Cum vero Genvae pro illustris. ac eccellentissi. Joan. Andrea Auria Melphorum Principe, atque Philippi Hispaniarum Regis, maritimæ Classis præfecto medicinam facerem, atque hæc mea scripta reviderem, Octavius Roveretus Medicus Doctissimus, mecum multo amore conjunctus, quique post me in Aegypto pro natione Veneta, medicinam multa cum laude faciebat, extrahendi lapidem hunc modum à priori satis diversum mihi litteris significavit, his verbis. 'Aliud etiam satis scitu dignum, tuæ Excel. narrare non omittam, estque modus aliquis è vesica lapidem extrahendi sine incisione, hic à quodam Arabe viro Christiano Saietico ad quendam Christianum Cophtum vocatum, ab hinc nonnullos menses operatus. Atque is est hujusmodi. Hic habet quasdam cannulas unam majorem altera, in modum musici instrumenti Syringæ appellati, e substantia Cartilaginea, quæ facile dilatatur. Harumque graciliorem in virgæ canalem intromittit, figitque quousque ad vesicam pervenerit, moxque ore insufflando ipsam inflat quantam plus potest, posteaque hæc majorem, vel crassiorem introducit, insufflandoque inflat eodem modo, et post tertiam, vel etiam quartam omnium maximam. Et cum sic iis virgam dilataverit, ut putet viam canalis fuisse sufficienter dilatatam, per eamque lapidem exire posse, Aegroto in

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* De Medicina Ægyptiorum, l. iii. cap. xiv.

in primis commode collocato, digitoque in ano posito, lapidem ad collum vesicæ ubi majoris cannulæ extremitas pervenit, deducit, in cannulam lapidem conducere conatur. Quo facto altero cannulæ meatu ore excepto conatur spiritum ad se trahendo, lapidem simul trahere, qui si nimis crassus sit, sæpe rumpitur, atque infrustra attrahitur, veluti contigit supradicto viro Cophto. Cui frustum, et reliquum lapidis admodum crassum, et durum, intus remansit, non eductum. Hic modus scitu est facilis, atque ab alio fortassis medico exercitatiori, et acutiori multo plus facilitari poterit, ac in meliorem atque utiliorem usum reduci, quòd multorum ab eo malo hominum infortunatorum auxilio summæ efflagitandum ac expectandum esset.' Hactenus Roveretus. Ex his igitur cogito te rectè audivissi binos hos modos, quibus Aegyptii ad extrahendos lapides è vesica utuntur."

We have now gone through the contents of this volume, and we might safely leave our readers to form their own opinion of its value. There is much room for praise, and much for censure, and a partial critic might indulge in either, on indisputable premises. We have generally abstained from both. It must, however, be obvious, that, as the production of many of the first practitioners in the metropolis, it must possess nearly the same superiority that they do over the mass of their professional brethren. An individual or two may rise to unmerited celebrity, and others may languish in undeserved obscurity; but, in the agregate, the most celebrated men are those who best deserve to be so; and in the same manner, authors may occasionally sink beneath, or rise above their common rate of writing; but the average value of a volume such as the present, may be safely estimated by the reputation of those who contribute to it.

PART III.

MEDICAL INTELLIGENCE.

Account of Diseases treated at the PUBLIC DISPENSARY, *(near Carey-Street,) London, from May* 31*st to August* 31*st* 1810.

Acute Diseases.

	No. of Cases.		No. of Cases
Synochus	40	Cystitis	1
Tertiana	1	Dysenteria	14
Ophthalmia	3	Cholera	3
——— post rubeolam	2	Rheumatismus acutus	18
Cynanche tonsillaris	9	Arthritis rheumatica	6
——— parotidæa	1	Variola	3
Pleuritis	1	Rubeola	7
Peripneumonia	11	Scarlatina	7
——— post rubeolam	7	Erysipelas faciei	3
Catarrhus	33	Miliaria	1
Hepatitis	2	Apoplexia	1
Enteritis	1	Hydrocephalus acutus	1
Peritonitis	2	Febris infantum	13
Hysteritis	1		

Chronic Diseases

	No. of Cases.		No. of Cases.
Cephalæa	19	Marasmus	7
Hemicrania intermittens	1	Hæmorrhois	2
Vertigo	2	Nephralgia	12
Cynanche chronica	4	Enuresis	1
Bronchocele	1	Dysuria	3
Epistaxis	1	Hysteralgia	3
Catarrhus chronicus	26	Leucorrhœa	19
Asthma	4	Menorrhagia	5
Hæmoptysis	11	Amenorrhœa	7
Phthisis	16	Dysmenorrhœa	1
Palpitatio	2	Hysteria	2
Dyspepsia	13	Epilepsia	4
Gastrodynia	14	Asthenia	30
Pyrosis	3	Rheumatismus chronicus	21
Hæmatemesis	4	Lumbago et Sciatica	5
Hepatalgia	2	Pleurodyne	2
Icterus	1	Paralysis et Hemiplegia	10
Enterodynia	18	Scrofula	1
Diarrhœa	19	Lichen	2
——— post rubeolam	5	Prurigo	3
Tænia	2	Psoriasis	2
		Melancholia	

CHRONIC DISEASES continued.

	No. of Cases.		No. of Cases.
Melancholia	1	Erythema	1
Hypochondriasis	1	Roseola	2
Anasarca	3	Impetigo	9
Ascites	3	Scabies	10
Hydrops tot. Corporis	2	Urticaria	1
——— post scarlatinam	1	Porrigo	3
Tympanites	1	Ecthyma	1

The whole of the summer has been cool, and, from the latter part of June to the end of the present month, moderate rains have been very frequent. This day the heat is, almost for the first time during the season, very considerable; the thermometer standing at 77°.

With the exception of continued fever, under its milder forms, few of the diseases, which usually occur during the summer season, have as yet been prevalent to any great extent. The small number of instances of cholera, which have appeared during the month of August, were not severe; and the other forms of disorder of the bowels have not greatly exceeded the average number at other seasons of the year. In several of the cases of continued fever, however, an affection of the bowels was very distressing and unmanageable, while the head remained free from disorder; and it appeared to be the principal source of irritation, by which the pungent heat of skin, the frequent pulse, thirst, and other febrile symptoms were prolonged, with little variation, to the middle or end of the third week; constituting the *febris gastrica* of authors. (See Burserius, &c.) The stools were generally watery, of a dirty brown or greenish-brown colour, and somewhat offensive in their odour, and they occurred in the number of three, four, or five, during the twenty-four hours. Active purgatives, even when conjoined with opiates, appeared rather to augment than to mitigate the disorder of the bowels; nor did the neutral salts, or rhubarb, afford a more decided benefit; while, on the other hand, opiates or astringents alone were manifestly injurious; giving rise to parched tongue, increased heat, and a more frequent pulse, without correcting the condition of the alvine excretions. In one or two cases, small doses of mercurials, as of the hydrargyrus cum creta, appeared to be beneficial, when repeated three times a day. In some of these instances, this state of the bowels certainly did not ensue from a neglect of evacuation in the beginning of the fever: indeed a suspicion more than once suggested itself, that the moderate employment of calomel, according to Dr Hamilton's plan (generally so successful), had even *induced* the derangement of the bowels.

The small-pox and measles have been prevalent to a considerable extent, and the sequel of the latter, as the preceding list evinces, have been severe and troublesome.

In both the cases of tænia, which occurred in middle-aged women, the large doses of the oil of turpentine were administered. In the first, it operated speedily as a purgative, without occasioning any sickness, or strangury, and expelled the worm : in the second, a worm of several feet in length had passed from the intestines, immediately before the patient applied to the dispensary, but considerable pain and uneasiness in the abdomen remained. She took an ounce and half of the oil of turpentine, which began to operate in the course of half an hour, and brought away four slimy stools, but without any worm : she has had no pain or uneasiness since that time. The remedy excited no pain or difficulty in passing the urine, and little thirst ; but she was sick at each operation by stool, and felt considerable giddiness during the whole of the afternoon.

London, August 31*st* 1810. T. B.

On the 25th of June the Senatus Academicus of the University of Edinburgh conferred the degree of Doctor in Medicine on the following gentlemen, after having gone through the appointed examinations, and publickly defended their respective inaugural dissertations :—

Of SCOTLAND.

Archibald W. Crichton,	*De Melancholia.*
William N. Stevenson,	*De Hydrophobia.*
George Wylie,	*De Enteritide.*
James Williamson,	*De Dysenteria.*

From ENGLAND.

Francis Forge,	*De Erysipelate.*
Frederick Bailey,	*De Dysenteria.*
Thomas Reeve,	*De Cynanche Maligna.*
John Elliotson,	*De Inflammatione communi.*
John Collinson,	*De Pulsu.*
Thomas Peach,	*De Ictero.*
Henry Payne,	*De Antimgnio.*
John Whittam,	*De Hydrope Anasarca.*
John B. Dwerryhouse,	*De Hypochondria.*
Mathew B. Cowie,	*De Dysenteria.*

From IRELAND.

William Thorpe,	*De Sanguinis Circuitu.*
Thomas Wahab,	*De Apoplexia.*

John

John Stritch,	*De Contagio.*
Thomas Kelly,	*De Neuralgia.*
Matthew Kenny,	*De Colica Pictonum.*
James Donworth,	*De Epilepsia.*
Robert Lloyd	*De Dysenteria.*
John Rogers,	*De Scrofula.*

From AMERICA.

Lawrence Lacy,	*De Scorbuto.*
Udney H. Hoope,	*De Vito.*
David Macloughlin, *Canada,*	*De Animi Auxilio ad Morbos præcavendos aut sanandos.*
William D. Selby, *Canada,*	*De Pneumonia.*

From the WEST INDIES.

Henry Hinson, *Bermuda,*	*De Cynanche Tracheali.*
John Maddox Titley, *St Christ.*	*De Alvi Purgantium natura et usu.*
Howard M. Clifton, *St Christ.*	*De Dysenteria.*

And, on the 12th of September, the same honour was conferred on the following gentlemen:—

Of SCOTLAND.

John Lorimer,	*De Pneumonia.*
Andrew Murray,	*De Pulsuum Varietatibus.*
James Anderson,	*De Sanitate Militum Tuenda.*
James Grierson,	*De Febre Continua.*
William Burns Peacock,	*De Apoplexia.*
Charles Gordon,	*De Hepatitide.*
Peter Scott,	*De Tetano Traumatico.*
James Dempster,	*De Ascite.*
Andrew Nicoll,	*De Plumbo.*
Adolphus Ross,	*De Hydrocele.*
James Barclay,	*De Ictero.*

From ENGLAND.

John Martin,	*De Nat. Human. Belluinæ Collata.*
Joseph Scott,	*De Impulsu Anni Tempestatum.*
John Gordon Smith,	*De Asthmate.*
Abraham Solomon,	*De Cerebi Tumoribus.*
J. G. Gullifer,	*De Rheumatismo.*

From IRELAND.

Edward Barlow,	*De Febre Hectica.*
George Reed,	*De Febre Continua Contagiosa.*
George Gumbleton Rogers,	*De Rheumatismo.*
Austen Dickinson,	*De Optimis Rationibus Sanitatis Conservandæ.*
William Fitton.	*De Pneumonia.*

Thomas

Thomas Lucas,	*De Scorbuto.*
Arthur Johnston,	*De Phthisi Pulmonali.*
Eugene O'Callaghan,	*De Hydrope.*
From the EAST INDIES.	
John Ramsay, *Surat,*	*De Vi Electrica.*
From the WEST INDIES.	
George Sanders, *Barbadoes,*	*De Hydrocephalo Acuto Interno.*

The following gentlemen have obtained the degree of Doctor in Medicine from the University of Glasgow, within the last twelve months :—

Mr Michael M'Turk	from Scotland.
Mr Alexander Marshall	———
Mr Alexander James Buchanan	———
Mr William D. Nelson	———
Mr James Balderstone Kirk	———
Mr Richard Kennedy	East Indies.

Glocestershire Vaccine Association, for Promoting Cow-Pox and Discouraging Small-Pox Inoculation.

THIS Association was formed in April, 1810. At present it consists of sixty-three Medical Practitioners of this county; all of whom, actuated by a high sense of public and professional duty, have individually and collectively declared, "*That they, considering their knowledge of Cow-Pox, do not believe themselves entitled either to practise or to sanction the use of Small-Pox Inoculation, and that henceforth they renounce it accordingly.*"

A General Meeting was held at Glocester, on the 6th of this month; at which it was resolved, that every attempt should be made to draw similar declarations from the Medical Practitioners in the different parts of the kingdom, because such unequivocal testimonies would most effectually tend to give confidence to the community, and to dispel those prejudices which are still artfully and ignorantly opposed to the progress of Vaccination. To promote these objects, the following Address was proposed, adopted unanimously, and ordered to be circulated as widely as possible.

TO THE PUBLIC.

We, the Members of the GLOCESTERSHIRE VACCINE ASSOCIATION, having for the first time assembled together, take the earliest opportunity of declaring to the public the motives of our conduct. The facts which have induced us to adopt this measure, we trust, will be received with attention by every one: they have carried conviction to our minds, and we anxiously hope that they may not be without effect upon the minds of others.

More than *twelve years* have elapsed since our illustrious countryman first made known the results of his accurate and successful inquiries into the powers of Vaccination. His experiments have been repeated on the grandest scale; and every corner of the globe has borne testimony to their truth and their importance. By the means which he discovered, the most pestilential and mortal distemper that ever attacked mankind, has already been banished from many parts of the world; and we believe that, by vigilance and attention, it may soon be eradicated from all. Every year's experience adds strength to this conviction; and we glory in it, as the highest claim that our art can exhibit to the gratitude and respect of our species.

In associating together to diffuse the blessings of a discovery which has already accomplished so much, we are not actuated by any fears respecting its ultimate and universal success. But we feel, that we should neither perform our duty as good citizens, nor as members of a profession to whom the care of the health of the community is entrusted, were we to remain inactive, while we see the murderous and disgraceful practice of Small-Pox Inoculation prevailing around to an alarming extent.

Many of the causes which at present support an ill-founded opposition to the practice of Vaccination, must soon pass away; and the next generation will probably wonder at the obstinacy which has been evinced by so large a proportion of our countrymen, in rejecting its great and well-authenticated benefits, even after they had been gratefully acknowledged in almost every spot on the habitable world. This perverse spirit we sincerely lament: it is peculiarly discreditable to this country; and we deprecate it as most pernicious and unjust. Small-Pox, in any shape, is a dangerous and loathsome disease. It is less fatal in the inoculated than in the natural state; but even this advantage has been purchased at a dreadful expence; thousands have been sacrificed, that a few might be saved.

It is our belief, that every argument for the continuance of this practice, has been removed. Upon this principle, we have associated together; and upon this principle we declare, that no man who has satisfied himself of the preventive powers of Vaccination, *can be justified, either in practising or in sanctioning the use of Small-Pox Inoculation.* To those, who, disbelieving in the efficacy of Cow-Pox, have resisted the strongest testimony that ever supported any medical question, we have nothing to say. We ase sorry that, on a subject of this kind, any individuals do not feel as we earnestly wish that all should feel, But we can neither impeach their integrity, nor reprobate their inconsistency. To those, however, who, knowing that they possess an antidote to the ravages of Small-Pox, and yet become accessary to the propagation of that distemper, another language ought to be spoken. Our meeting this day, and the whole of our previous proceedings, are meant to indicate our *abhorrence* of such conduct, because we consider it as the destructive triumph of avarice or timidity, over professional integrity and independence. This most criminal indecision, has, in our opinion, prolonged the existence of prejudices which might long ago have disappeared. Medical men, who know, and have admitted, the advantages of Vaccination, are at least bound to act in conformity with that knowledge. A conscientious and explicit avowal of their sentiments, supported and enforced by a manly and consistent line of conduct, must inspire confidence into the public mind, and facilitate the advancement of a cause, for the success of which every good man must be interested. We have attempted to do so; and we most fervently hope, that our endeavours may not be in vain.

But while we thus express our opinions of the duties which ought to bind us, and the rest of our brethren, we must at the same time remark, that our best exertions will be fruitless, unless the public feeling upon these points in some measure corresponds with our own. While medical men are held responsible for their professional acts, it is despotism to attempt to awe them into practice which their reason and their conscience condemns. We feel ourselves called upon to resist such influence; and we know, that, by so doing, our claim to public confidence and esteem should not be diminished. If we are required to follow the honest decisions of our judgment, in the ordinary transactions of our profession, much more is it necessary for us to do so, in a case which involves consequences like the present.

Did those who employ Small-Pox Inoculation expose their own children only to the dangers of that disease, we might justly bewail their fatal ignorance and obstinacy; but when, in addition to this, they involve a whole district in the same perils, they are *guilty* of *cruelty* and injustice, and are answerable for evils, the extent of which no human being can calculate. We dare not, with our present knowledge of Cow-Pox, become actors in this work of death; and we feel the greatest concern, that the question respecting the dissemination of a plague, should lie at the mercy of any individual.

Were the evidence in favour of Cow-Pox infinitely less perfect than it is, the circumstances which we have stated will always claim the most serious consideration from every benevolent mind: and when they shall have been as accurately and extensively examined as they should be, we confidently expect a determination in unison with our wishes. Should our attempts to accelerate this event prove unsuccessful, we shall at least enjoy the satisfaction of believing that we have not neglected the means which have been placed within our reach, of conferring a substantial benefit upon our race; and we know that they are at this instant greater, than ever were possessed by the members of our profession at any former period.

In conformity with the views just stated, it was further resolved, at the meeting above referred to, that measures should be taken to request the co-operation of the Members of the Medical Profession throughout the kingdom, for the purpose of checking the unlimited dissemination of Small-Pox contagion; that a Central Vaccine Institution be established at Glocester, as soon as sufficient funds are collected; and that subscriptions be opened at the Banking-houses of Glocester and Cheltenham.

The Members of this Association, in presenting this abstract of their Proceedings to the public, earnestly beg for that assistance and support which they think themselves entitled to expect. They confidently appeal to every individual, of every denomination, who either has experienced or wishes to experience the blessings of Vaccination, cordially to unite with them in forwarding this great cause. Considerable expence has been already incurred, and the purposes of the Association cannot be carried on without incurring more. It is hoped, therefore, that aid, in proportion to their importance, will be freely bestowed; and that the inhabitants of a country, which has given to the world the most valuable of human inventions, will not be backward in contributing to diffuse its advantages.

Glocester, July 25, 1810.

Extract of a Letter from Lisbon, dated 12*th May* 1810, *giving an Account of a singular Effect of the Fumes of Quicksilver, in the Crews of two Ships on that Station.*

A LARGE quantity of quicksilver was saved from the wreck of a Spanish ship about Cadiz, by two or three of our ships, and was placed in their spirit rooms. An alarming illness broke out among the crews, all of whom were more or less salivated. The surgeons, pursers, and three petty officers, who were nearest the place where it was stowed, felt its effects the most, their heads and tongues having swelled to the most alarming degree. We have been under the necessity of sending the Triumph to Gibraltar to be cleared, and to have the people sent to the hospital, this ship having been most affected, having had the greatest quantity of quicksilver on board. The Phipps schooner has been cleared in this harbour, by boring a hole in her bottom, to allow the quicksilver to run out. Every rat, mouse, and cock-roach on board, has been destroyed, and the symptons of general salivation have appeared in a strong degree. It may be a question whether this effect of the quicksilver was owing to its having lain long in sea-water, or whether the rotting of the leather bags which contained it might have a share in producing these *effluvia*. It is in favour of the latter opinion, that the officers above mentioned, who slept over the bags were most affected, whereas those who slept near the quicksilver, which run loose, were not affected. This was particularly observable in the Phipps schooner, where the men slept on the cables, close to where the quicksilver had flowed in consequence of escaping from the bags, and yet they were but little affected in comparison of the others.

The Editors are also informed, from undoubted authority, that three surgeons of the fleet were directed to meet, and after investigating this matter, to report upon it, and that their report confirms the particulars of this statement.

Substitute for Cantharides. Communicated by a Letter from ADAM BURT, M.D. *Superintendent-Surgeon, Muttra.*

In a scarcity of cantharides where I lately have been stationed, I was led to look for the Meloe Cichorei, which has been described in Vol. (I believe the 5th) of the Asiatic Researches; but in that quarter it seems not to be found in any quantity sufficient to be useful. In the course of my search, however, I had the good luck to meet with a different blistering-fly, another species of Meloe, possessing blistering powers far superior to that of the Spanish fly; and I have had the satisfaction, with complete success, to introduce this new article of the Materia Medica into the practice of all the medical gentlemen in the district of my official superintendency. Whether or not the superior efficacy in this instance has been owing to the more recent state of the flies, compared with those imported from Spain, future experience must decide; but that vesication can be produced in shorter time than by the Spanish fly, though in India only, may be a fact of no small importance. I have sent specimens of the prepared flies, with such account as I could give of the insect, to Sir Joseph Banks.

Communications have been received from Dr WALKER and Mr WATTEL.

⁎ Communications may be addressed to the Editors, to the care of Messrs CONSTABLE & Co. Edinburgh; Messrs CONSTABLE, HUNTER, PARK, and HUNTER, 10, Ludgate Street, London; and Messrs GILBERT & HODGES *Dublin.*

ERRATUM.—In Vol V. p. 496, line 6, for groves *read* graces.

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